United Nations Development Programme

Annotated Project Document template for nationally implemented projects financed by the GEF/LDCF/SCCF Trust Funds

<table>
<tr><td colspan="3">Project title: Incorporating multiple environmental considerations and their economic implications into the management of landscapes, forests and production sectors in Cuba</td></tr>
<tr><td>Country: Cuba</td><td>Implementing Partner: National Centre for Protected Areas (CNAP) of the Ministry of Science, Technology and Environment (CITMA)/</td><td>Management Arrangements: National Implementation Modality (NIM)</td></tr>
<tr><td colspan="3">UNDAF/Country Programme Outcome: Productive and services sectors strengthen the integration of environmental considerations, including energy and adaptation to climate change, into their development plans</td></tr>
<tr><td colspan="3">UNDP Strategic Plan Output:
1.3 Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste</td></tr>
<tr><td colspan="2">UNDP Social and Environmental Screening Category: Low</td><td>UNDP Gender Marker: 2</td></tr>
<tr><td colspan="2">Atlas Project ID/Award ID number: 00094887</td><td>Atlas Output ID/Project ID number: 00098961</td></tr>
<tr><td colspan="2">UNDP-GEF PIMS ID number: 5760</td><td>GEF ID number: 9429</td></tr>
<tr><td colspan="2">Planned start date: 1st November 2018</td><td>Planned end date: 31st December 2024</td></tr>
<tr><td colspan="3">LPAC date: 17th May 2018</td></tr>
<tr><td colspan="3">Brief project description:
The project will promote the generation of multiple global environmental benefits (GEBs) based on the integrated economic valuation of ecosystem goods and services, as a tool for decision-making at different levels. Specifically, it will address threats associated with the growth of mass tourism, the emission of liquid wastes from industrial, extractive and domestic sources, unsustainable agriculture, marine transport and port operations. It will promote the application of an integrated landscape-wide management approach to recognise the spatial dimensions of threat drivers, and the mainstreaming of environmental considerations into production practices; it will also develop capacities to ensure that decision-making and planning are based on sound information regarding ecosystem conditions, ecosystem goods and services, threats, and associated economic implications. The project will consist of three components: 1) Legal, policy and institutional frameworks in key sectors optimising the generation of GEBs; 2) Tools including targeted scenario analysis guiding decision-makers on the implications of different courses of action in the target sectors affecting natural resources and global environmental values and 3) Pilot experiences in 5 selected target localities generating, validating and demonstrating mechanisms for optimizing and internalizing the values of ecosystem goods and services.</td></tr>
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FINANCING PLAN	
GEF Trust Fund	USD9,580,365
(1) Total Budget administered by UNDP	**USD9,580,365**
PARALLEL CO-FINANCING (*all other co-financing that is not cash co-financing administered by UNDP*)	
UNDP	USD85,000
Government[1]	USD37,800,000
(2) Total co-financing	**USD37,885,000**
(3) Grand-Total Project Financing (1)+(2)	**USD47,465,365**

SIGNATURES		
Signature: print name below	**Agreed by Government** Carlos Fidel Martín Rodríguez Director a.i. DOEI, MINCEX	**Date/Month/Year:** 20/8/2018
Signature: print name below	**Agreed by Implementing Partner** Carlos A. Díaz Mga Director. CNAP. CITMA	**Date/Month/Year:** 20/8/2018
Signature: print name below	**Agreed by UNDP** Soledad Banzo Representative Resident Adjunta	**Date/Month/Year:** 03/09/18

[1] According to the official exchange rate defined by the Central Bank of Cuba, 1 Cuban Peso (CUP) is equivalent to 1 US dollar (USD)

I. TABLE OF CONTENTS

Abbreviations and Acronyms

ACPA	Cuban Association of Animal Production
ACTAF	Cuban Association of Agricultural and Forestry Technicians
ANAP	National Association of Small Producers
BCC	Central Bank of Cuba
BD	Biodiversity
BIOFIN	Biodiversity Finance Initiative
CITMA	Ministry of Science, Technology and Environment
CPP	Country Pilot Partnership
EBA	Ecosystem-Based Adaptation
EIA	Environmental Impact Assessment
ERC	Evaluation Resource Centre
FNMA	National Environment Fund (Fondo Nacional de Medioambiente)
FMC	Federation of Cuban Women
FONADEF	National Forestry Development Fund (Fondo Nacional de Desarrollo Forestal)
FSP	Full Sized Project
GEB	Global environmental benefit
GEF	Global Environment Facility
GEFSEC	Global Environment Facility Secretariat
IEO	Independent Evaluation Office
INRH	National Institute for Hydrological Resources
IPF	Institute of Physical Planning
IUCN	International Union for the Conservation of Nature
LD	Land Degradation
M&E	Monitoring and Evaluation
MEP	Ministry of Economy and Prices
MES	Ministry of Further Education
MFP	Ministry of Finance and Prices
MINAG	Ministry of Agriculture
MINAL	Ministry of Foodstuffs
MINCEX	Ministry of External Cooperation
MINEM	Ministry of Energy and Mines
MINTUR	Ministry of Tourism
MOA	Model of Environmental Planning (*Ordenamiento Ambiental*)
MTR	Mid-Term Review
NBSAP	National Biodiversity Strategy and Action Plan
NIM	National Implementation
NSC	National Steering Committee
OLPP	Local Organisms of Popular Power
ONEI	National Office of Statistics and Information
PA	Protected Area
PIF	Project Identification Form
PIR	GEF Project Implementation Report
PNMCS	National Programme for Soil Improvement and Conservation
POPP	Programme and Operations Policies and Procedures
PPG	Project Preparation Grant
RTA	Regional Technical Adviser
SESP	Social and Environmental Screening Protocol
SFM	Sustainable Forest Management
SLM	Sustainable Land Management
STAP	GEF Scientific Technical Advisory Panel

TE	Terminal Evaluation
TSA	Targeted Scenario Analysis
UNDP-GEF	UNDP Global Environmental Finance Unit
USD	United States Dollars
WWF	Worldwide Fund for Nature

II. DEVELOPMENT CHALLENGE

Context

1. Cuba, located in the Caribbean Sea, has a total surface area of approximately 11.09 million ha, of which around 6.7 million ha are classified as agricultural; the total population is around 11.3 million. The climate is tropical, with an average annual rainfall of 1,375mm, average temperature of 24^{o}C and average atmospheric humidity ranging from 60-80%. The climate is seasonal, with a marked dry season from November to April, and there are pronounced geographic variations across the country, with rainfall progressively declining and becoming more seasonal from west to east of the country.

2. Planning and decision-making regarding the management of natural resources in Cuba have to balance a number of conflicting priorities, including on the one hand the needs to ensure food and energy security and the generation of hard currency, and on the other the needs to ensure the sustainability of development through protecting natural capital, and to protect global environmental values on the other in accordance with the international conventions to which the country is signatory.

3. The potential conflicts between these priorities, and the consequent difficulty of finding the optimal balance between them through environmental decision-making, will be increased in the future due to the following factors which are of particular relevance to a number of specific production sectors (the threats associated with each of these are explored in more detail in the following section):

- **Economic transformation**, featuring increased private sector activity: while having the potential to increase efficiency, this has potential implications, which are difficult to predict, for extractive pressures on resources, and for environmental planning and governance conditions. It also gives a new perspective to the respective interests and responsibilities of land managers and the State regarding the management of natural resources and ecosystem services: land managers, especially in the agricultural sector, are likely to have increased motivation to protect the productive potential of the land from which they are now increasingly able to obtain private benefits; however it is less clear how this change may affect their motivations to protect the potential of the land to generate benefits for other stakeholders, such as hydrological services and biodiversity.
- **Increased reliance on tourism** as a source of hard currency and employment opportunities. The country's Economic and Social Policy focuses on accelerated growth in this sector, with increased product diversification, development of non-State activity, municipal involvement, as well as sustainable development. It is estimated that there is potential to increase the sector by a factor of almost seven, from the current resource of 63,700 rooms to 421,800 rooms. This growth is expected to continue to be focused primarily on coastal and marine areas, which are of importance for diverse stakeholders at global, regional, national and local levels (as explained below).
- **Climate change:** this will have a range of effects including increasing the frequency of droughts, which will place increased pressures on available water resources (and give increased importance to the hydrological provisioning services of ecosystems), together with increases in storm frequency, wave impact and saltwater intrusion (associated with sea level rise), which will increase the importance of the ecosystem-based adaption role of coastal and marine ecosystems.

4. In addition, the flows of ecosystem goods and services and the impacts generated by natural resource management and sector development in Cuba have strong spatial dimensions, affecting different stakeholders located across landscapes in different and in many cases conflicting ways. This calls for an integrated landscape-wide approach to decision-making and natural resource management.

Supply, demand and markets for ecosystem goods and services

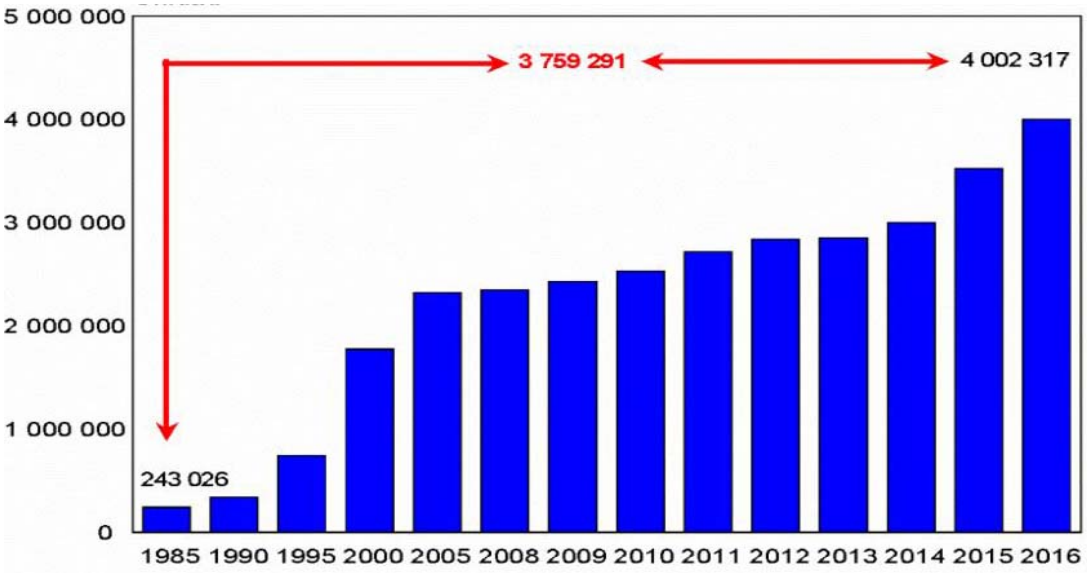
5. Although a number of Government instruments exist to incentivize and compensate the generation of ecosystem goods and services, including the National Environment Fund (FNMA), the National Fund for Forest Development (FONADEF) and the National Programme for the Conservation and Improvement of Soils (PNMCS), (see below), markets directly linking supply and demand for ecosystem goods and services are as yet poorly developed. This is in part due to the conceptual novelty of this approach in the political context of Cuba, which has

over the last half century strongly emphasised centralised approaches to planning and control, and in part to the limited development of methodological instruments for economic valuation of environmental goods and services.

6. ***Water supply*** is one of the most crucial ecosystem services in Cuba, and in recent years lower precipitation levels have led to a lower availability and storage of fresh water in surface water bodies: these amount to around 3.0 billion m^3, which corresponds to about 43.1% of the total capacity (estimated by the government at 6.5 billion m^3 per year). Water availability per capita is 1220 m^3/year which is lower than the minimum desirable of 1500 m^3/person/year established by UN for the satisfaction of the water needs of the population, underlining the importance of adopting and implementing efficient water management practices and a stricter water consumption. As a consequence of water scarcity and despite the fact that 93% of the population is served by drinking water sources (98% in urban areas and 82% in rural regions), the time and access to the service is variable and therefore up to 79% of the population has intermittent access to water supply (in an average of 12 hours per day)3, which may not meet the corresponding standards for direct human consumption and use[2]. The water supply network is largely obsolete (80% of the mains and distribution pipes are older than 40 years), meaning that although the average water supply per inhabitant in Cuba is estimated at about 604 litres per day, about 55% of the water supplied is lost to leaks within the distribution system. Furthermore, the limited water precipitation and reduced water storage capacity (as consequence of the topographical features of the island) makes the water resources of Cuba susceptible to saltwater intrusion, an increasing problem due to the overexploitation of groundwater sources[2].

7. In the tourism sector, water consumption per tourist can be up to 1,000 litres/day: this is placing an ever-increasing pressure on water resources given the massive growth in tourism numbers in recent years.

Figure 1. Trends in international visitor arrivals in Cuba, 1985-2016 (thousands)[3]



8. Wastewater treatment is limited: while wastewater collection reaches 98% coverage, only 19% of generated wastewater receives certain treatment before its discharged into surface water bodies, which severely affects primary fresh water resources (e.g. potential hydraulic interaction between Almendares River & Vento Aquifer which serves as a potential hydraulic connection to the drinking supply of the City of Havana).

9. Recently (under the National Water Policy approved in 2012), Cuba has introduced schemes of payment for water consumption in accordance with volumes consumed, in order to incentivise water savings and permit reinvestment in the sector: the Government will continue to finance investments in water infrastructure, prioritizing improvements in water supply to the population, as well as sectors of economic importance including

[2] http://chinawaterrisk.org/resources/analysis-reviews/alleviatingwater-scarcity-in-cuba/

[3]Oficina Nacional de Estadística e Información (ONEI): Panorama económico y social. Cuba 2016, p. 37. Consulted at: http://www.one.cu/publicaciones/08informacion/panorama2016/28%20Turismo.pdf (02/10/2017)

agriculture, livestock and industry. Payments for water consumption are not, however, directly linked or channelled to investments in protection of the watersheds and aquifers on which water supply depends.

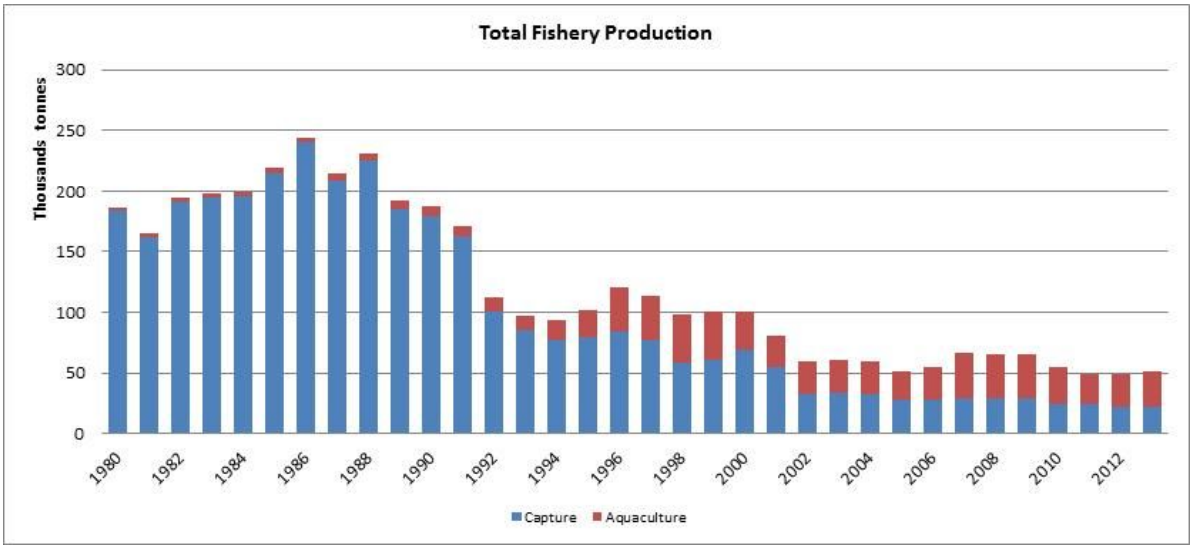
Table 1. Key statistics on freshwater resources in Cuba[4]

Potential water resources	38,138hm^3
Usable water resources	23,888hm^3
Available water resources - Superficial - Subterranean	13,667hm^3 9,172.6hm^3 4,495.1hm^3
Freshwater extraction	6,152.3hm^3
Proportion of total water resources used	16.5%
Proportion of available water resources used	45.0%

10. ***Landscape***: the growth in visitor numbers shown in Figure 1 above implies a corresponding growth in demand for landscape services. Given the domination of the tourism sector by "sun and sand" tourism, the predominant demand is for quality beach and near-shore sea environments, but nature and cultural tourism are also growing in importance, implying an increasing demand also for other well-conserved natural ecosystemsis, including forests and wetlands.

11. ***Fisheries***: since the beginning of the 1990s, fisheries catches have declined significantly in Cuba (Baisre, 2001; Puga et al. 1992) (Figure 2); this decline is largely attributable to overfishing, to meet the demand stimulated by the country's policy priority of meeting food security targets, combined with the application of inappropriate fishing practices. It is also associated with the deterioration of marine and coastal ecosystems, including mangroves, coral reefs and seagrass beds, which supply vital ecosystem services on which the fisheries sector depends: mangroves, for example, function as reproduction and grow-on zones for many species, and fish tend to move move between different ecosystems in different stages of their life-cycles. Studies of coral populations are incomplete; however, there are strong indications of declines in the abundance of black coral (*Antipathes* sp) colonies and the dominant reef-forming coral *Acropora palmata*. The loss of sea grass beds, composed principally of *Thalassia testudinum*, is of concern as these are vital breeding areas for lobsters and other marine fauna. Over the last 20 years a dense area of sea grass between 6 and 20 km in width has been lost in the area between the Zapata Peninsula and the Cortés inlet. Mangroves also serve to protect coastlines against erosion and act as traps for sediment, which otherwise enters the open sea and has negative impacts on corals and seagrass beds.

Figure 2. Trends in fisheries production in Cuba



[4] http://www.one.cu/publicaciones/coleccionestadisticas/Agua.pdf

12. Significant steps have been made in recent years to address this situation, including the strengthening of marine protected areas, the establishment of special management and controlled use zones for fisheries, and improved controls on fisheries gear and practices, notably through the GEF-funded project "Application of a regional approach to the management of marine and coastal protected areas in Cuba's Southern Archipelagos Region". There are still however no functioning markets for the ecosystem services on which the fisheries sector depends, that diretly link the sector with the protection, management and restoration of marine and coastak ecosystems.

13. **Climate change resilience**: Cuba is highly vulnerable to the effects of climate change, including coastal flooding, saline intrusion into aquifers, changes in temperature and rainfall regimes, and increases in the intensity of extreme weather events. This implies a high level of reliance on the services of ecosystem-based adaptation (EBA) provided most notably by coral reefs, seagrass beds and mangroves, which help to reduce wave impacts and seawater incursions, as well as watershed protection forests which help to maintain hydrological flows as well as to protect against landslides and associated flash floods during tropical storms and hurricanes. Coastal communities are especially at risk from the impacts of climate change and so dependent on EBA services: Cuba has a total of 262 coastal settlements spread along its 5,746km of coastline, including the coastal capital city of Havana itself, which is home to 2 million people out of the national population of 11.4 million (of which 50.3% are women). Demand for EBA services can be expected to increase in proportion to the magnitude of CC risks: as an example, projected increases in sea level, one of the main sources of CC risks, are shown in Table 2. Cuba has prioritized climate change action, most recently through the National Action Plan on Climate Change (*Tarea Vida*), complementing investments of national funds with international cooperation, including resources from the Adaptation Fund and GEF; to date, however, there are no functioning markets *per se* for the EBA services.

Table 2. Predictions of sea level rise in Cuba up to the year 2100

IPCC scenarios	Climate sensitivity	2020	2050	2070	2100
A1C	Low (1.5°C)	0.04	0.08	0.14	0.22
	Medium (2.6°C)	0.09	0.17	0.30	0.49
	High (4.2°C)	0.15	0.27	0.48	0.85
B2	Low (1.5°C)	0.04	0.07	0.10	0.15
	Medium (2.6°C)	0.10	0.16	0.23	0.35
	High (4.2°C)	0.15	0.26	0.40	0.62

14. The new National Biodiversity Strategy and Action Plan (NBSAP, titled the National Programme for Biodiversity 2016-2020) recognizes the importance of integrating the values of biological diversity in sector-based and territorial programmes, harmonizing the objectives of conservation and sustainable use in the country's development policies and strategies, and in the processes of decision-making at all levels (Goal 2); and of ensuring that economic instruments and incentives are available, which contribute to slowing the loss of biological diversity (Goal 3).

Economic valuation of ecosystem goods and services to date in Cuba

15. Although the issue of the relation between the economy and the natural environment has been addressed in Cuba for a number of years, until recently most efforts were concentrated in research centres and universities, with an emphasis on the economic valuation of the environment[5], and with funding from international projects. Other work on the subject has covered issues such as the relation between economic instruments and environmental problems[6], the training of professionals on economic and environmental issues[7], environmental accounting[8] and issues related to sustainability[9].

[5] Gómez Pais, 2002, 2005; Hernández Santoyo, 2010, 2011; Zequeira, 2008; Rangel, 2013; Ferro, 2016
[6] Garrido, 2003
[7] Llanes, 1999; Casas, 2001
[8] Salas, 2012
[9] Rangel, 2007

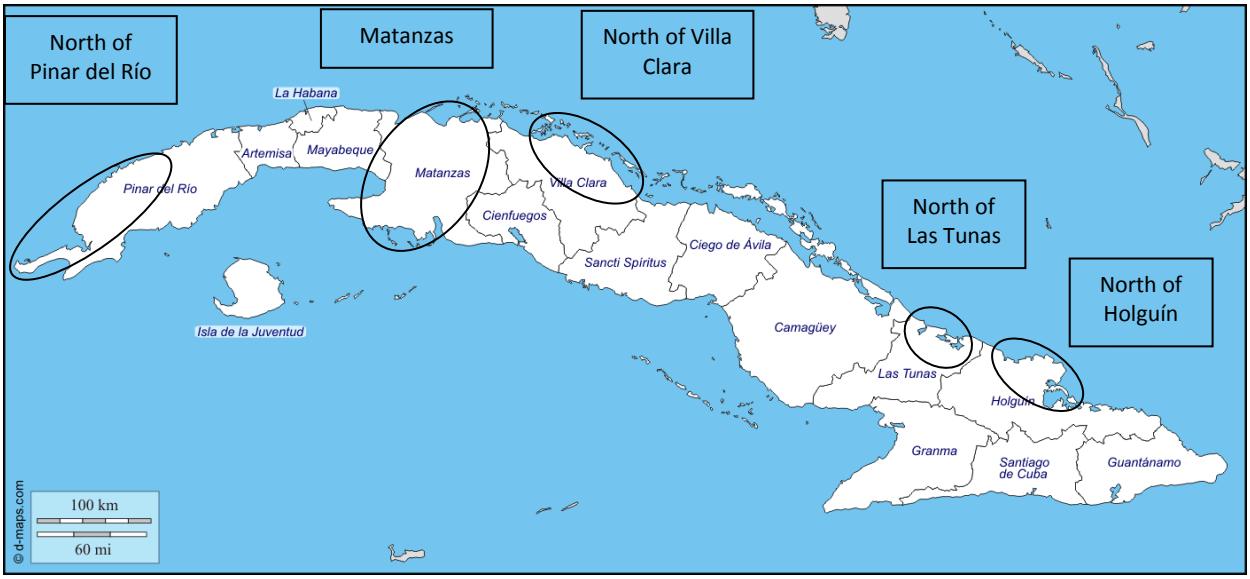
16. Case studies to date have covered the functions of mangroves and their total economic value[10], water regulation services[11], the Viñales National Park[12] and the Guanabo River catchment[13]. In each case, these studies have used objective techniques as well as those associated with market prices[14] and contingency valuation[15], as well as complementary methods such as multicriterion analysis[16]). This has resulted in the consolidation of the capacities of technical specialists in the country in relation to issues of economic valuation.

17. Recently, a national group has been established working on the economic valuation of ecosystem goods and services and environmental damage, which following the effects of Hurricane Sandy has been working on three fundamental issues: 1) the creation of the national group and provincial groups for the coordination of studies of environmental impacts; 2) the creation and updating of a national methodology to standardize concepts, methods and working tools; and 3) the realization of economic valuation studies of ecosystem services and environmental damage, contributing to decision-making.

Target areas

18. The field level activities of the project, under Component 3, will be focused on five localities where there are particular opportunities to generate global environmental benefits (GEBs) in the three targeted focal areas (biodiversity, land degradation and sustainable forest management). The target localities are shown in Figure 3 and the justifications for their selection are summarized in Table 3.

Figure 3. Locations of the project target areas



1) **The north and west of Pinar del Río province**, includes the Guanahacabibes peninsula in the extreme west of Cuba, as well as the lower slopes and plains on the northern side of the Guaniguanico range, and the coastal and marine ecosystems (mangroves, sea grass beds and coral reefs) into which these slopes drain.

2) **The province of Matanzas**, extending across the whole width of the island; this will include the tourism centres of Varadero and Ciénega de Zapata, the Ciénega de Zapata and Ciénaga de Majaguillar wetlands on the south and north coast respectively, and the intervening coastal plains.

[10] Gómez Pais, 2002
[11] Marrero, 2002
[12] Hernández Santoyo, 2010, 2011
[13] Rangel et. al., 2013, Ferro, 2016
[14] Gómez Pais, 2002, 2005
[15] Rangel et. al. 2013, Ferro, 2016
[16] Hernández Santoyo, 2010, 2011

3) **The north of Villa Clara province**, includes the coastal plains and adjoining fringing reefs, cays and mangroves, and the Cayería Norte tourism development hub.

4) **The north of Las Tunas province,** including the municipalities of Manati and Puerto Padre, and the bays of Malagueta and Puerto Padre

5) **The north of Holguin** Province, including:
   - The municipalities of Gibara, Rafael Freyre, Banes and Antillas
   - The bay of Nipe and the adjoining lowlands
   - North of Holguín tourism development hub (from Gibara to Antilla)
   - Protected areas: Caletones Ecological Reserve, Cabo Lucrecia-Punta de Mulas Fauna Reserve and Ramón Peninsula Protected Natural Park.
   - Demonstration polygon: Gibara (CCS José Velázquez)
   - Target production sectors: tourism, fisheries, agriculture, livestock and conservation.

19. Between them, these areas provide the project with the opportunity to generate major environmental benefits of global significance across the three focal areas on which the project will focus, while functioning as "laboratories", generating lessons and experiences of integrated approaches to natural resource management that will have potential for nationwide replication.

20. Each area was selected on the basis of the potential that existed there to optimize the generation of environmental benefits of global importance as a result of decision-making that is guided by improved access to information on the economic values of the ecosystems in question, the goods and services that they generate, and the implications of alternative management scenarios. The specific justifications for the selection of the areas in these terms are as follows:

Table 3. Justifications for the selection of the target localities:

1) North and west of Pinar del Río	2) Province of Matanzas	3) North of Villa Clara	4) North of Las Tunas	5) North of Holguin
BD: Existence of BD of global importance, and opportunities to generate benefits through management strategies guided by results of economic valuation studies				
Reefs of importance for larva dispersal, mangroves and seagrass beds:– regulation of fishing, appropriate tourism, control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management, sustainable fisheries.	**Wetlands (including endemic Cuban crocodile):-** sustainable fisheries, appropriate management of water and irrigation infrastructure, control of pollution from domestic, tourism and agricultural sources; improved livestock management; control of invasive forestry species. (Melaleuca) **Reefs of importance for larva dispersal, mangroves and seagrass beds:**– regulation of fishing, appropriate tourism,	**Reefs of importance for larva dispersal, mangroves and seagrass beds (including manatees, turtles and hutias):**– regulation of fishing, appropriate tourism, control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management **Connectivity along the length of the coast:-** rationalization of fisheries, sustainable and responsible tourism; spatial planning and	**Reefs of importance for larva dispersal, mangroves and seagrass beds (including manatees, turtles and hutias):**– regulation of fishing, appropriate tourism, control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management **Connectivity along the length of the coast:-** rationalization of fisheries, sustainable and responsible tourism; spatial planning and	**Reefs of importance for larva dispersal, mangroves and seagrass beds (including manatees, turtles and hutias):**– regulation of fishing, appropriate tourism, control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management **Connectivity along the length of the coast:-** rationalization of fisheries, sustainable and responsible tourism; spatial planning and

1) North and west of Pinar del Río	2) Province of Matanzas	3) North of Villa Clara	4) North of Las Tunas	5) North of Holguin
	control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management Biological connectivity between wetlands on the north and south coasts:– connectivity-friendly agroforestry systems	environmental mitigation/management measures of infrastructure development	environmental mitigation/management measures of infrastructure development	environmental mitigation/management measures of infrastructure development
LD: opportunities to generate benefits through improved decision-making based on economic valuation				
- Integrated management of crop fertility - Integrated management of soil, water and biodiversity - Regulations, incentives, sanctions, sustainable economic alternatives, sector-based planning and spatial planning				
SFM: opportunities to benefit forests of high value for conservation, guided by ecosystem valuation				
· Appropriate forest management and control of grazing in Guanahacabibe forests (important for endemism and as genetic reserve and Key Biodiversity Area). · Combating impacts on high value forests of Guaniguanico from crops and grazing by goats and pigs · Monitoring of cover and condition of forests to inform management, restoration, and instruments of incentives and sanctions	· Investment in control of fires, illicit extraction, invasive species and livestock in forests of Ciénaga de Zapata (largest wetland in the Caribbean islands, Ramsar site and Biosphere Reserve) · Wildfires, salinity, exotic species, landscape fragmentation through oil extraction and salt production, pig farming in the forests of Ciénaga Majaguillar (proposed Ramsar site)	· Control of impacts on mangroves from fires, extraction of forest products and expansion of agriculture	Control of impacts on mangroves from fires, extraction of forest products and expansion of agriculture	Control of impacts on mangroves from fires, extraction of forest products and expansion of agriculture

21. Data on the area coverage of the target areas are presented in Additional Annex N.

Threats

22. The challenges highlighted above, of reconciling at times conflicting priorities and stakeholder interests, are most acute in coastal and marine ecosystems and their adjoining lowland agricultural landscapes, and it is on these that the project will focus especially. The project will however generate models of planning and resource

management which will be replicable in other ecosystems and landscapes nationwide, also increasing the effectiveness with which the diverse environmental threats affecting those areas are tackled.

23. Coastal and marine ecosystems and adjoining lowlands are particularly affected by a number of threats, the significance of many of which is likely to increase in the short and medium term. These include the following:

The growth of tourism activity.

24. Tourism is undergoing massive growth in Cuba, and is foreseen to continue to do so in the future, in accordance with national policies (see Box 1).

Box 1. Provisions for Tourism Development in the Economic and Social Policy Guidelines

Guideline No. 256: Tourism activity should have an accelerated growth that allows the dynamization of the economy, based on a programme of efficient development.

Guideline No. 260: The accelerated creation, diversification and consolidation of services and complementary provisions, prioritising the development of the following modalities: health, marine and nautical tourism, golf and real estate, adventure and nature tourism, theme parks, cruise tourism, history, culture and heritage, conventions, congresses and fairs, including the study of the potential of the south coast.

Guideline No. 262: Non-State activity in relation to accommodation, gastronomy and other services will continue to develop in complement to State activities.

Guideline No. 264: The design and development, as part of the municipal offer at territorial level, tourist attractions as a source of income in convertible currency (accommodation, gastronomic services, sociocultural and historic, equestrian, camping, rural tourism, flora and fauna observation and other services).

Guideline No. 267: Prioritize the maintenance and renovation of tourism and support infrastructure. Support policies that guarantee the sustainability of their development, implementing measures to reduce the levels of water and energy consumption and to increase the use of renewable sources of energy and the recycling of wastes generated from tourism services.

25. MINTUR reports a number of environmental impacts associated directly or indirectly with its existing tourism installations (resturants, hotels and campsites), including pollution through the disposal of solid and liquid wastes, noise contamination, excessive extractive pressures on available water resources, overfishing, and damage to reefs by tourist boats. Depending on how the growth of this sector, driven by the need for economic development and hard currency, is managed, there is the potential for it further to threaten coastal and marine ecosystems (especially mangroves and coral reefs, but also seagrass beds, rocky shores and beaches) through direct displacement by infrastructural development, sediment inputs into reef and sea grass ecosystems due to disturbance during construction, and emissions of liquid and soil wastes into these ecosystems during operation. Such impacts would be or global, regional, national and local concern due to the global conservation importance of these ecosystems; the significance of Cuban coral reefs as a source of larval dispersion throughout the Caribbean; the importance in particular of mangroves and reefs for ecosystem-based adaptation against the impacts of climate change, and the productive sustainability of the country's fisheries sector; and the sustainability of the tourism sector itself given their aesthetic and recreational value.

26. Although many of the environmental impacts resulting from the growth of the tourism sector are associated with "sun and sand" tourism and the related infrastructure including large hotel complexes, other forms of tourism have also been reported to generate impacts, for example nature and landscape tourism in localities such as Viñales. These impacts are to some extent related to the growth of the non-State tourism sector.

Overfishing

27. The development of logistical and social facilities over the last half century resulted in increases in the fishing effort, which, due to inadequate regulation, led to the overexploitation of certain fisheries. Fisheries resources on the Cuban insular platform are limited: in the 1980s they were evaluated at 60,000t, while analyses of the peaks of offtake up to 2000 show a historic loss of 30,000t. In 2002, 87.6% of the principal fisheries were in decline. The effects of overfishing are combined with climate and anthropogenic factors that have affected marine ecosystems, including the damming of rivers, pollution, the effects of climate change on temperature, acidity and salinity regimes, and the use on unselective fishing gear. These factors have resulted in reductions in recruiting, population size and capture rates.

28. In accordance with the principles of fisheries management defined by the FAO and based on the Code of Conduct for Responsible Fisheries, a set of regulatory measures have been applied based on the results of scientific studies, with the aim of achieving a situation of sustainable use of marine resources, backed up by a system of control and vigilance. Some parts of the marine platform are under strict regulatory measures, such as Marine Protected Areas. Drag nets have been eliminated from scale fisheries, and are only allowed in shrimp fisheries when fitted with an escape device designed by the Centre of Fisheries Research. Furthermore, new minimum size limits have been brought into force, together with closed periods during the breeding season and improved control of levels of fishing effort. Emphasis has also been placed on the increase of intensive and extensive forms of aquaculture of certain species, with the aim of maintaining levels of supply to meet food needs while reducing pressures on fisheries.

The application of unsustainable forms of agricultural production

29. Agricultural soils across the country are affected by a number of factors that limit their potential to support sustainable production (see Table 4).

Table 4. Factors affecting the productivity of agricultural soils nationwide

Limiting factor	% of agricultural area
Erosion (strong to medium)	43%
Poor drainage	40%
Low fertility	45%
Low organic matter content	70%
Low moisture retention capacity	37%
Compaction	24%
Salinity and sodicity	15%
Stoniness	12%

30. In common with soils across much of the rest of the country, the soils in the target areas are affected by the application of unsustainable agricultural practices. The impacts of these practices on soil and water resources and adjoining remnant natural ecosystems, and their resulting unsustainability, are a function of their inherently damaging nature (such as inappropriate forms or levels of mechanisation, chemical use and irrigation) and also to the fact that they undermine the resilience of the production systems to the negative implications of climate change, such as drought and saltwater intrusion into aquifers. The application of the environmentally damaging practices is partly attributable to the climatic and edaphic conditions in the areas in question, to which producers have responded by the application of unsustainable forms of intensification.

31. Examples of unsustainable agriculture practices in the target areas are as follows:

- The use of *inappropriate forms of machinery and cropping practices in mechanized agriculture* on plains and rolling areas, such as the use of excessively heavy tractors with inappropriate tyres and ploughs: this results in soil compaction and associated erosion, while the practice of continuous cultivation at constant depth typically leads to the formation of impenetrable hard pans.

- The *inadequate and inappropriate management of nutrients* leads to soil acidification, nitrate pollution of aquifers, eutrophication of surface waters and low crop yields. There have been major advances with organic agriculture throughout the country, with the application of practices such as crop rotation, the use of cover crops, green manures and worm compost in response to the difficulty in obtaining imported artificial fertilizers. However, although the use of artificial inputs has reduced significantly, artificial fertilizers are still extensively used in some crops to ensure short term production needs and food supply.

- In other cases, shortages of artificial fertilisers and difficulties in producing the immense quantities of organic fertiliser required to substitute them leads to crops suffering nutrient deficiencies and low yields, resulting in *increases in the areas thay have to be brought into production to meet supply targets*. Inadequate application of organic fertilisers also results in low levels of soil organic matter, a situation which in Las Tunas affects 70% of the agricultural soils of the province.

- *The use of monocultures, especially in the case of sugarcane*, can impose excessive demands on soil nutrient reserves given that these crops only access a limited section of the soil profile and inhibit the natural processes of nutrient cycling typically associated with systems with higher levels of compositional and structural diversity.

- In hilly areas, *poor soil and vegetation management practices within cyclical agricultural systems* expose the soil to rain impacts, the degradation of surface layers, reductions in infiltration, increases in runoff and the loss of root matter in the soil, resulting in laminar, rill and gulley erosion, reduced aquifer recharge and soil moisture, and increased probability of slumping. Here too, increased intensity of production with inappropriate nutrient management cauases loss of soil fertility and organic matter.

- *The use of fire for land clearance, the control of pasture pests such as ticks, and the renewal of pastures,* reduces needs for labour and chemical inputs for land clearance in the short term, but its negative impacts include the exposure of the soil to rain impacts, crusting, reduced infiltration and increased erosive runoff. It also leads to the loss of carbon and nitrogen reserves in the soil.

- *Forest fires* are also a significant cause of forest degradation and loss, particularly in dry forest areas. The majority of fires are of human origin, largely due to negligence.

- *Inappropriate crop selection* in relation to the productive potential of the soil, relief, water and nutrient availability and climatic conditions causes degradation of the nutrient status of the soil, increased pressures on scarce water resources and increased soil erosion on slopes to due inadequate soil cover.#

- *Inadequate livestock management practices*, including free range grazing and the use of high stocking levels, causes vegetation degradation due to browsing and the compaction of soils by trampling, which in turn reduces soil porosity and the development of pasture and other plants.

Poor management and overextraction of water resources

32. *Poorly managed agricultural irrigation* is also concentrated on the lowland plains of the target areas. This has caused problems including exhaustion of aquifers, soil erosion and salinization. Spray irrigation (as opposed to drip irrigation or practices aimed at conserving soil moisture such as mulching) is particularly inefficient in terms of water use. In 1996, this form of irrigation was used in 46% of the irrigated area of Las Tunas province. This practice also causes surface crusting and reduced infiltration due to drop impact. Inadequate planning and maintenance of irrigation can also exacerbate erosion by runoff water. Inadequate attention to the chemical composition of irrigation water can also lead to salinization, especially in coastal areas where this process is exacerbated by the intrusion of saline waters of marine origin and where there is inadequate drainage.

Poor forest management, forest degradation and the illicit extraction of forest products

33. Forests are affected in some cases by failures to respect silvicultural prescriptions: the inadequate application of provisions for protection against fire and pests leads in some cases to mortality and degradation of forest condition, while delays in the application of prescribed thinning regimes result in reductions in product quality with negative implications for forest value. The illicit extraction of forest products, without regard to the management prescriptions or sustainable yield capacity of the forests in question, affects their stocking density and canopy cover, with negative impacts on their biological and productive sustainability, their biodiversity, their ability to generate ecosystem services including watershed protection and resilience to the impacts of climate change, and their role as carbon sinks. The forest products that are most commonly subject to illicit extraction are timber, for the production of wooden furniture, and charcoal; the ecosystems that are most affected are broadleaved forests and mangroves, respectively, both in protected areas and production forests.

Climate change

34. These anthropic threats described above, particularly in relation to land degradation, are further exacerbated by natural factors. Over much of the country the climate is strongly seasonal, with a pronounced dry season between November and April and a rainy season between May and October. Low rainfall during the dry season severely limits agricultural production, especially in locations where the soil has low levels of organic matter and vegetation cover to retain humidity, increasing the need for irrigation with its associated negative impacts on soil properties (see above). Wet season rains, by contrast, may be torrential and cause significant soil damage due to drop impact and runoff erosion.

Box 2. Results of condition assessment of reefs in Guanahacabibes (Pinar del Rio target area)[17]

Coral reef communities have declined throughout the Caribbean in the last three decades due to the combined effects of natural and anthropogenic disturbances (Ostrander et al., 2000). Declines in coral cover have been accompanied by abrupt shifts in community structure, with once-dominant corals being replaced by smaller weedy coral species, non-reef-building invertebrates, and/or fleshy macroalgae (Adam et al., 2015). Thus, these changes in coral reef composition have led to the physical flattening of reef communities along with possible changes in carbonate budgets as a consequence of higher amounts of bare substrata (Alvarez-Filip et al., 2011).

Recent studies suggest that rates of loss in the Caribbean reef architecture have remained high in recent years (Alvarez-Filip et al., 2009), while coral loss has almost ceased (Schutte et al., 2010).

Two reefs studied in Guanahacabibes in 2016 (Yemaya and Laberinto) appeared to be at an earlier stage of changes than reefs studied in Cancún, Mexico. Species richness was high (McField and Kramer, 2007) and remains similar to previous reports in these sites (Gonz alez-Ferrer et al., 2007; Perera et al., 2013). The coral cover of these reefs (18.06% in Yemaya and 12.06% in Laberinto), nonetheless remained similar to those reported by Caballero et al. (2007) and Perera et al. (2013). Large colonies of species that were commonly found in healthy reefs in 1970s such as the Orbicella complex (Kramer, 2003) can be also found in Yemaya and Laberinto (Kramer, 2003).

The observed recruitment rates (5.02 ± 3.2 individuals/m2 in Yemaya and 4.67 ± 3.06 individuals/m2 in Laberinto) were also suitable to remain in a state dominated by corals (Alcolado and Dur an, 2011).

According to Carpenter and Edmunds (2006), D. antillarum populations have recovered in the Caribbean only in shallow depths (<6 m). At greater depths as that of the Guanahacabibes reefs, herbivory and in consequence resilience is carried out by herbivorous fishes (Ledlie et al., 2007). As reported by Cobi an et al. (2011), densities and biomass of herbivorous fishes of the families Acanthuridae and Scaridae in these sites are adequate to maintain low macroalgal coverage. Alcolado et al. (2003) also reported high macroalgae cover in the area. This appears to be a recurring pattern in the zone which can be conditioned by the presence of a system of coastal lagoons interconnected with the marine area. In the case of the Cuban sites, these land based coastal lagoons normally provide nutrients by the flow that occurs underneath the dune and is conditioned by the dynamics of tides and sea level and favored by the karst structure of the permeable Guanahacabibes Peninsula (Iturralde-Vinent, 2010). Further studies are required in order to corroborate whether this relation in fact affects coral reef dynamics.

In conclusion, the studied reefs seems to be following the same trend of decline toward a change in species dominance, favoring weedy coral species, which leads to a decrease in the three-dimensional structure of the reef and reduced diversity of the ecosystem.

While there have been documented benefits of no-take marine zones, they may slow but do not forestall reef decline. In the case of reefs of Guanahacabibes, the reef seems to be tolerating current diving intensity, coinciding with Caballero et al. (2007).

Barriers

35. Since 2013 the Government of Cuba has, in accordance with the provisions of the national Economic and Social Policy (Item 133), promoted studies of ecosystem goods and services as an element of the process of perfecting the country's economic model. However, a number of barriers currently exist to the achievement of the desired situation proposed above.

Barrier 1: Policy and legislative instruments are not adequately supportive of an integrated management approach

36. Cuba has well-developed policy and regulatory frameworks in relation to natural resouce management and environmental protection. At present, however these remain dominated by single-sector visions, which have not

[17] Perera-Valderrama, S. et al. "Condition assessment of coral reefs of two marine protected areas under different regimes of use in the north-western Caribbean". Ocean & Coastal Management. Volume 127, July 2016, Pages 16-25

kept pace with the country's overall policies of economic development and transformation, and their direct and indirect implications (see paragraph 3). This is particularly the case in key sectors which are potentially associated with emerging threats and where there is potential for conflicts between different national and local priorities and the interests of diverse stakeholder groups, such as (see above) the tourism, agriculture, fisheries and hydrocarbon sectors. Such single-sector visions risk undermining the sustainability of national development, through eroding the natural capital on which these productive sectors depend.

37. Furthermore, the planning and regulatory instruments through which policies are implemented are not designed in such a way as to permit such an integrated vision to be applied, or the diversity and interrelated nature of ecosystem goods and services and stakeholder interests to be taken account in an objective and balanced manner. For example, procedures for Environmental Impact Assessment (EIA) are well defined, and supported by strong technical capacities for the analysis of environmental and social impacts; but they lack the methodological instruments required to allow decision-makers to weigh up the net implications of such diverse impacts, to consider the implications of varying the priorities assigned to different impacts and benefits, and the interests of different stakeholder groups, or to weigh up impacts at a strategic level. Spatial planning procedures are also well developed, but do not provide planners with the means of adequately weighing up the net implications for different sectors and stakeholder groups of alternative planning scenarios, such as different spatial configurations and intensities of productive sector development or of environmental restrictions.

38. Environmental incentive mechanisms are also well developed, especially in the forestry and agricultural sectors , including the National Environment Fund (FNMA), the National Fund for Forestry Development (FONADEF) and the National Programme for Soil Conservation and Improvement (PNCMS). The eligibility criteria for these mechanisms, and the levels of incentive provided, do not however adequately take into account the nature and magnitude of the net environmental benefits generated or their potential cross-sector implications, such as the economic benefits potentially generated for the tourism sector by providing financial incentives for different forms of forest restoration.

39. Even if the methods and procedures proposed above in support of balanced environmental decision-making are developed, levels of conceptual understanding and technical capacity among key actors are currently inadequate to allow them to be applied. The principal institutions in which the existence of such shortcomings is particularly likely to be constitute a bottleneck in this regard include the Ministries of Economic and Planning (MEP), Finance and Prices (MFP), Agriculture (MINAG), Tourism (MINTUR), Further Education (MES), Foodstuffs (MINAL), Energy and Mines (MINEM) and Environment (CITMA), as well as the National Statistics Office (ONEI), the Institute of Physical Planning (IPF), the National Institute of Hydrological Resources (INRH) and the Central Bank (BCC); however the nature, magnitude and significance of these capacity deficiencies wil be confirmed through detailed capacity analyses during the PPG phase.

Barrier 2: Policy makers, planners and other decision makers only have access to qualitative information that does not reflect the economic value of ecosystem goods and services

40. In addition to the methodological and procedural limitations explained above, planners, policy-makers and decision-makers are also hampered by inadequate supply of information on the nature, magnitude, significance and economic values of ecosystems and the goods and services they generate; this limits their overall levels of awareness of the importance of ecosystem goods and services, as well as their abilities to formulate appropriate responses.

41. Significant experience has been gained with economic valuation over recent years, and there is in additional a large amount of dispersed information available which could be used to support decision-making, however this information has yet to be brought together and communicated to decision-makers in a useful manner, and advantage has yet to be taken of existing platforms such as the INFOGEO information system in this regard[18].

42. Decision-making is further hampered by limited capacities and tools for generating new information on the economic values of ecosystem goods and services, or the implications of different context scenarios (e.g. climate change and macroeconomic factors), policies or management options. Decision-makers' abilities to define

[18] This platform will be promoted and strengthened by the UNDP/GEF project "Integrating Rio global environmental commitments into national priorities and needs through the improvement of information management and knowledge for planning and decision making" (GEF project 9319).

appropriate sanctions or incentives for influencing the behaviour of resource managers are also limited by the absence of tools for analyzing their cost-effectiveness in relation to the nature, magnitude and distribution of the environmental benefits that they are likely to generate, relative to their transaction costs. Tools are also inadequate to enable monitoring of the effectiveness of decision-making, planning and management instruments based on the valuation of ecosystem goods and services, in terms of the resulting changes in management practices and ecosystem conditions; or to apply such monitoring in a standardized way across sectors and instruments, as would be required in order to determine overall net inter-sector impacts.

Barrier 3: Local actors have inadequate experience of integrated approaches capable of optimizing flows and ecosystem goods and services

43. Although a very large resource of knowledge and experience has been generated in Cuba over the last 10-20 years in relation to sustainable natural resource management, this has largely been sector- and focal area-specific, and as a consequence has not adequately considered the net and cumulative implications of resource management decisions and the interrelations (both positive and negative) between sectors and focal areas. This mirrors at local level the compartmentalization at national level, described under Barrier 1 above. At this level, the problem lies with the narrowness of vision and experience of technicians belonging to sector ministries (such as MINAG, MINAL, MINEM, MINTUR and CITMA), as well as representatives of local and regional governments (OLPP) and productive entities. As a consequence, productive initiatives in one sector may, for example, undermine the viability and sustainability of other sectors, or may generate unintended negative impacts on actors located in other parts of the landscape. Even when sector development actors are aware of the potential for such impacts, they may lack the technical knowledge and information required to allow them to plan and implement effective mitigation measures.

III. STRATEGY

Conceptual framework for project design

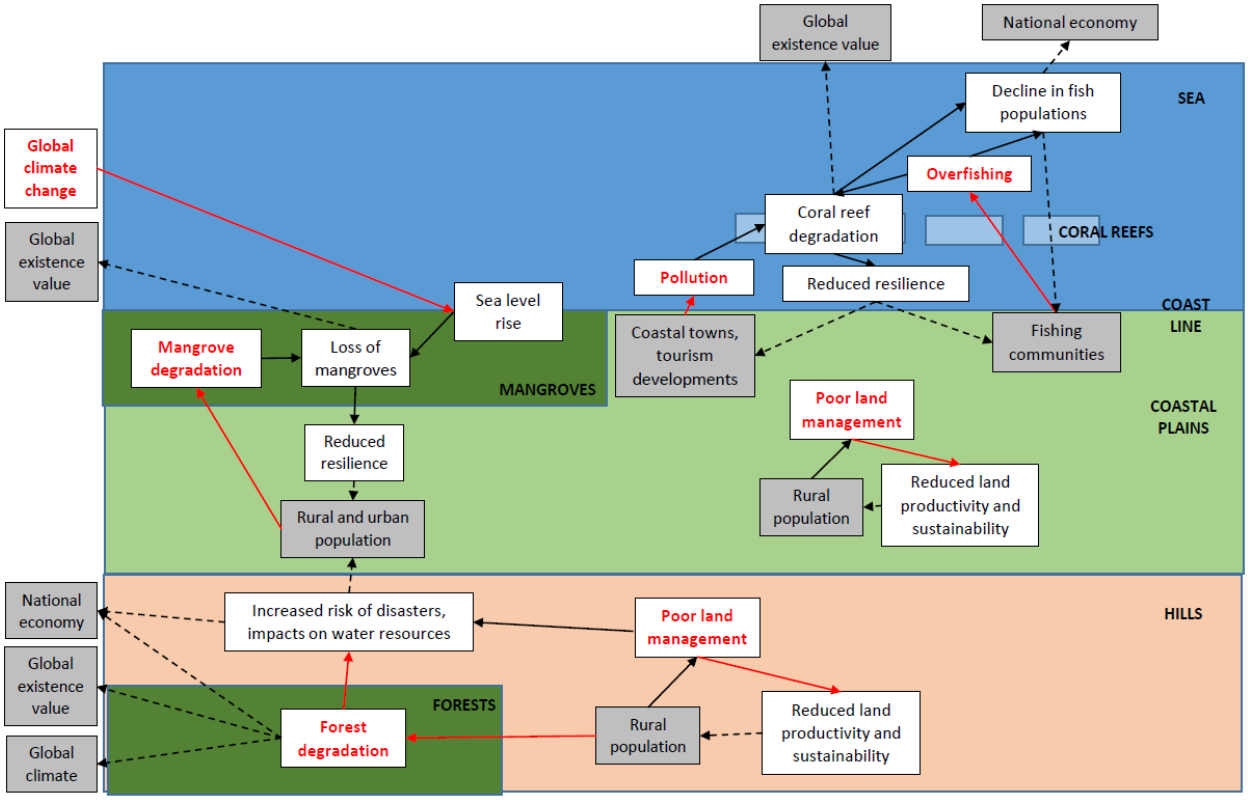
44. The project design process has been guided by the Resilience, Adaptation Pathways and Transformation Assessment" Framework (RAPTA)[19], as shown in Appendix XIII.

Selected approach

45. In order for the threats described above to be addressed effectively and for the needs of the diverse stakeholders involved to be balanced objetively and equitatively, it is essential for an integrated landscape-wide management approach to be applied, which recognises the complex spatial dimensions of the processes that drive the threats, while at the same time focusing on mainstreaming environmental considerations into the management practices of production sectors with particular potential to generate threats to global environmental values. It also requires decision-making and planning to be based on sound information regarding the status and functioning of the ecosystems in question and the threats that affect them, as well as the nature and magnitude of the goods and services that these ecosystems generate, and the significance and value and of these goods and services for the diverse stakeholder groups and the sustainable development of production sectors.

46. The project approach takes into account the nature of the flows of environmental threats operating in the project's target areas, arising from the threats described in the previous section and portrayed in the simplified schematic diagram below (Figure 4). As can be seen, the resource management practices (threats, shown in boxes with red text) applied in different parts of the target landscapes and seascapes have a number of environmental implications affecting local, national and/or global interests (grey boxes), which provide the justification for the application of economic/financial instruments aimed at correcting the damaging resource management behaviour that causes the threats.

Figure 4. Schematic diagram of flows of environmental impacts



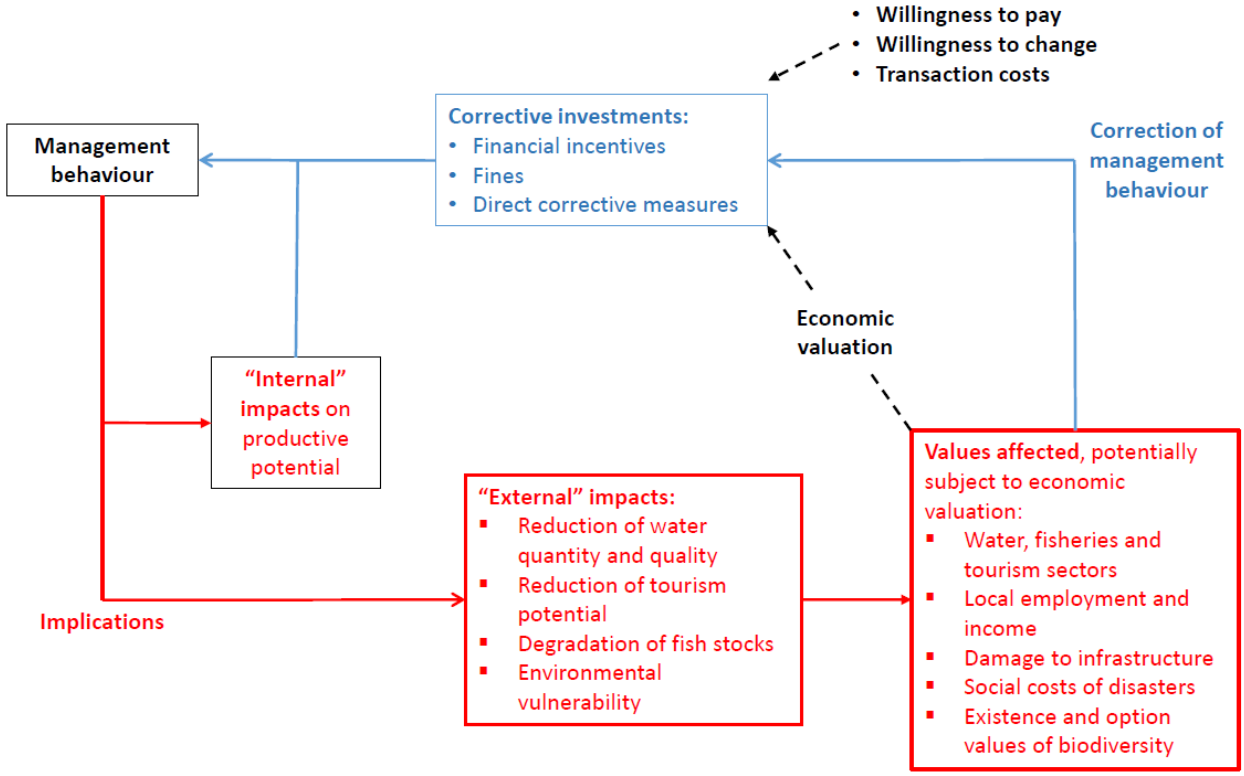
[19] https://www.thegef.org/sites/default/files/publications/STAP-RaptaGuidelines-2016.pdf

47. The threats generate impacts at a number of scales:

- **Global**, in the form of loss of carbon stocks (contributing to global climate change) and biodiversity (which is of global existence value)
- **National**, through the degradation of the natural capital (e.g. forest resources, fish populations) on which the national economy and food security depend
- **Local**, through the degradation of water quality and quantity on which populations downstream depend, and increased exposure to environmental risk in the form of landslides, flash floods and sea level rise
- **"Internal"**, where the damaging resource management practices affect the interests of the same rural actors who carry them out, for example in the case of poor land management practices, overfishing, and the degradation of coastal ecosystems of importance as buffers against climate change.

48. The logic of the project, and the justification for its focus on economic valuation, are summarized in Figure 5.

Figure 5. Summary of the logic of the economic valuation of environmental impacts



49. The project aims to generate environmental and social benefits by countering damaging forms of natural resource management behaviour (threats). As explained above, these threats have both implications for the wellbeing of the very actors who carry them out ("internal" impacts) and also for other actors at global, national and local levels ("external" impacts). "External" threats may be countered through investments in a range of alternative corrective measures, all of which have financial implications, including the provision of financial incentives, the levying of fines, and direct corrective measures such as ecosystem restauration. In each case, it is necessary to define what is the correction that it sought in the management behavior; who should pay for and who should receive the investments; in what form should the payment be made; and how much should be invested. The project aims to support the development of tools and capacities to allow these decisions to be taken, through the valuation of the costs of the impacts of damaging management practices, as well as other determining factors including the levels of investment the actors affected by the threats are willing or able to make in order to reduce the threats ("willingness to pay"), the levels of incentives or fines those responsible for the threats require in order to change their behaviour, and the transaction costs of the mechanisms relative to the magnitude of the benefits they are likely to generate.

50. The project will be particularly innovative for Cuba by virtue of the fact that it will achieve its objective by combining the following approaches:

- Improving the effectiveness of environmental management strategies in satisfying conflicting priorities and stakeholder interests, by developing capacities for improved decision-making based on objective and transparent economic valuation of ecosystems and evaluation of the implications of alternative management scenarios.
- Applying (for the first time in Cuba in the context of GEF projects) a multi-focal approach that recognises the multiplicity and interrelatedness of the ecosystem goods and services provided by the country's natural ecosystems and production landscapes.
- Applying an integrated landscape approach to the planning of environmental management, in order to address the spatial flows of environmental impacts and benefits in the most effective and cost-efficient manner possible, and to optimize overall benefits (previous GEF projects have applied a landscape approach but focusing principally on single focal-area benefits such as environmental connectivity, without considering the existence of diverse types of benefit/impact flows and the relations between them).

Ecosystem values and threat correction measures proposed

51. The ecosystem values and corresponding threat correction measures proposed in each of the project's target localities are summarized in Table 5.

Table 5. Ecosystem values and corrective measures by target locality (derived from Table 3)

Ecosystem values	Corrective measures	Target localities
Coral reefs mangroves and seagrass beds	Regulation of fishing, appropriate tourism, control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management, sustainable fisheries	1) North and west of Pinar del Río 2) Province of Matanzas 3) North of Villa Clara 4) North of Las Tunas 5)North of Holguin
Wetlands	Sustainable fisheries, appropriate management of water and irrigation infrastructure, control of pollution from domestic, tourism and agricultural sources; improved livestock management; control of invasive forestry species. (Melaleuca)	2) Province of Matanzas
Connectivity along the length of the coast	Rationalization of fisheries, sustainable and responsible tourism; spatial planning and environmental mitigation/management measures of infrastructure development	3) North of Villa Clara 4) North of Las Tunas
Sustainable land management	Integrated management of crop fertility Integrated management of soil, water and biodiversity Regulations, incentives, sanctions, sustainable economic alternatives, sector-based planning and spatial planning	1) North and west of Pinar del Río 2) Province of Matanzas 3) North of Villa Clara 4) North of Las Tunas 5)North of Holguin
Sustainable forest management and conservation of high value forests	Appropriate forest management and control of grazing Investment in control of fires, illicit extraction, invasive species and livestock Monitoring of cover and condition of forests to inform management, restoration, and instruments of incentives and sanctions	1) North and west of Pinar del Río 2) Province of Matanzas
	Control of impacts on mangroves from fires, extraction of forest products and expansion of agriculture	3) North of Villa Clara 4) North of Las Tunas 5) North of Holguin

Methodologies for economic valuation

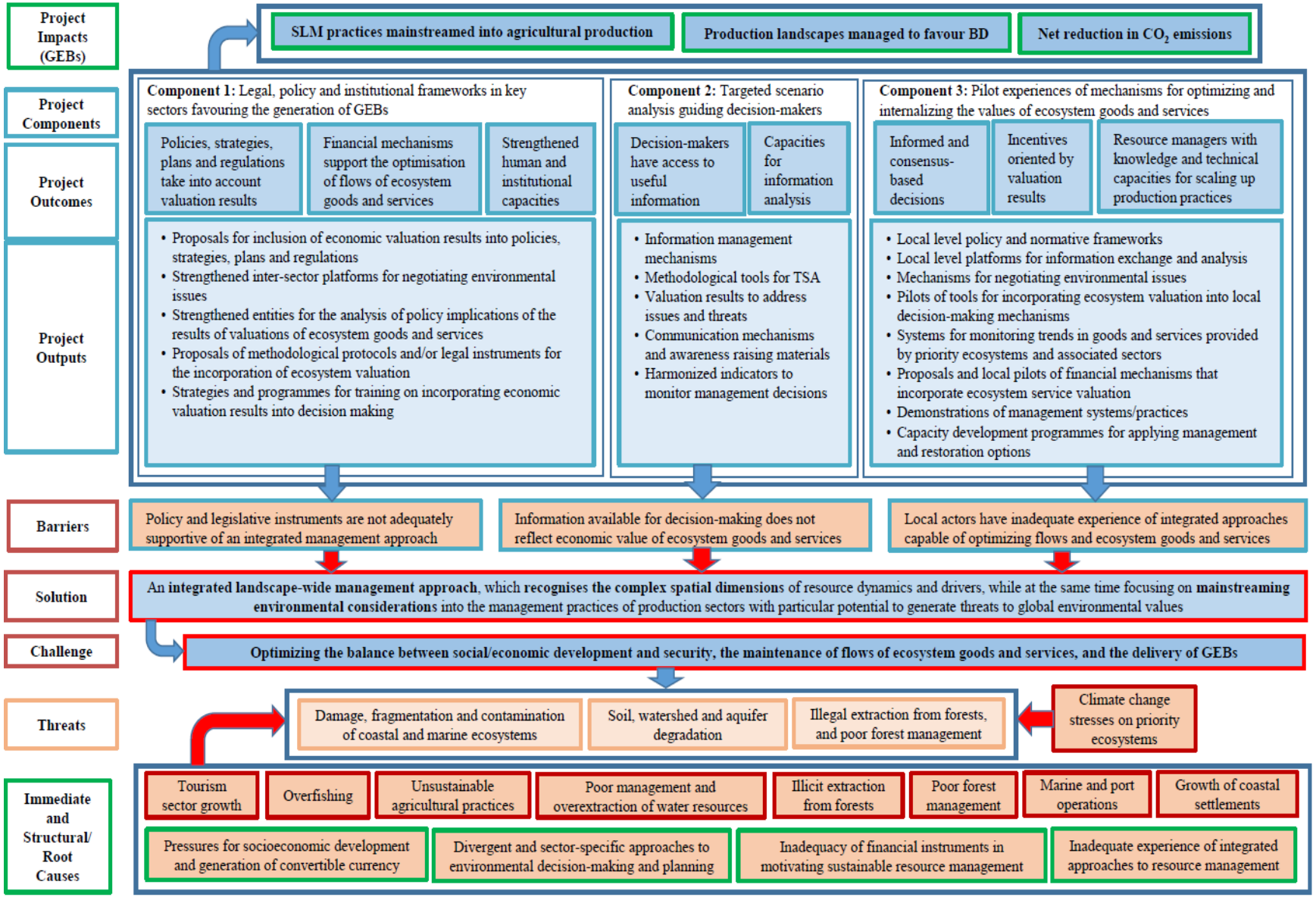
52. It is foreseen that the tools to be used for the economic valuation of the ecosystems in the target areas, and the goods and services they provide, will include the following:

- Valuation of the contribution to the national economy of the sectors (such as tourism, fisheries and agriculture) that benefit from the ecosystem goods and services, coupled with analyses of the degree of dependence of the target sectors on the ecosystems and the goods and services they provide, and of the sensitivity of the economic contributions of the sectors to variations in the availability of these goods and services. These sensitivity analyses will be based on studies including, for example:
    - Biological studies analyzing the degree to which fisheries productivity (and therefore the value of the sector) would be affected by reductions in the area or condition of mangroves that provide fish populations with habitat for reproduction and grow-on: the value of the calculated loss of sector productivity with each hectare of mangrove lost would equate to the value of the mangroves in $/ha.
    - Studies (using approaches such as contingency valuation) of the degree to which tourists' willingness to pay for tourism activities would be affected by alternative scenarios of landscape and environmental quality.
- Calculation of the investments required in providing alternative sources for the goods and services if they are not provided by the ecosystems: for example the level of additional investment that would be required to provide alternative sources of water, or to increase the reliability of the existing sources, if the forests currently protecting watersheds are lost. This avoided substitution cost equates to the value of the ecosystem. This calculation would require technical studies and/or literature reviews to demonstrate the effects of forests on water yield, relative to non-forest ecosystems.
- Estimation of the costs of repairing damage resulting from the loss of the protective roles of ecosystems. Repair costs would be calculated based on experiences with recent storm and hurricane events in the country, and technical studies will be carried out to estimate how much greater the damage and associated costs would have been in the absence of ecosystems and the resilience functions they provide.

Theory of change

53. The theory of change of the project is presented in Figure 6.

Figure 6. Theory of Change diagram (⇨ = problem, ⇨ = solution)



Relation to the baseline scenario

54. Under the baseline scenario, Cuba will continue to invest strongly in environmental management, through diverse approaches including forest restoration, the strengthening of protected areas, the promotion of sustainable land management practices, the application of environmental safeguards on productive and extractive industries, and spatial planning. However, without incremental GEF investment through this project, these initiatives will fail to take adequately into account the complex interactions and interdependencies between different landscape elements and environmental concerns, and decision-makers will lack the means to optimise the balance and synergies between the objectives of economic development, food security and the protection of natural capital and ecosystem goods and services.

55. Under the baseline (without project) scenario, the corrective measures proposed in Table 5 will be taken, due in part to the capacities developed through previous GEF investments; under the GEF alternative (the "with project" scenario), these measures will address the threats portrayed in Figure 4 more effectively and efficiently, as a result of guidance from economic valuation studies and the development of further specific capacities through GEF investment in this project.

56. The overall outcomes of the project for the conditions of the prioritised ecosystems and the services they provide will be determined by a combination of the results of the application of these corrective measures and the responsiveness and resilience of the ecosystems. System assessments carried out during the PPG phase suggest that:

- As a result of GEF investment in this project, improved effectiveness of the application of the corrective measures proposed to address threats to coral reefs, mangroves and seagrass beds (regulation of fishing, appropriate tourism, control of pollution from settlements and marine traffic, mitigation measures for the oil sector, watershed management, and sustainable fisheries) will improve the health of these ecosystems relative the baseline scenario, but:
- Predicted rates of CC-related sea level and sea temperature rise may exceed the tolerance limits of these ecosystems, and their ability to adapt (for example through natural growth of coral reefs in response to light stimuli, evolutionary adaptation to temperature rise, or landward migration of mangroves):
- While the GEF scenario will be better than the baseline scenario, it will not necessarily result in stability of the conditions of the target ecosystems and their capacities to generate ecosystem services. A continuous and dynamic approach to adaptation at a whole-landscape level will be required in order to achieve social and environmental resilience and the maintenance of flows of ecosystem goods and services.
- Terrestrial ecosystems (agroecosystems and watershed forests) will also be subject to improved management and conservation as a result of the project, relative to the baseline scenario, through the improved effectiveness of the application of measures such as integrated management of crop fertility, soil and water, appropriate forest management, and control of grazing, fires, illicit extraction and invasive species.
- The responsiveness of these terrestrial ecosystems, and their tolerance limits in relation to stresses and shocks (including the effects of global climate change), are likely to be greater than in the case of coastal and marine ecosystems, with a broader range of management and species options available.
- Under the GEF scenario, it is therefore likely that the condition of terrestrial ecosystems and their capacity to generate ecosystem services will be improved not only relative to the without project scenario but also in absolute terms.

Baseline investments

57. Key baseline investments on which the project will build include the following:

- The National Programme for Soil Conservation and Improvement (PNCMS), established in the year 2000 and coordinated by the Soils Institute. This has achieved major impacts including reductions in levels of soil compaction on the Habana-Matanzas plains as a result of subsoiling, crop rotations and the use of green manures; reductions of soil erosion to allowable levels of around 3-4 t/ha/year, increases of 10-15% in tobacco production due to the application of worm humus and compost, and increases in soil P and K in coffee and cocoa plantations due also to humus and compost applications. Through the PNCMS,

demonstrative "polygons" for the conservation and improvement of natural resources (soil, water and forests) have been established throughout the country; in the period 2016-2020, the PNCMS will continue to support soil conservation and improvement measures in 51 such polygons, in 30 municipalities in the north of Pinar del Rio province, Matanzas province and the north/east zone, under a range of different conditions of land tenure, with a budget from national resources of USD 24 million over the 6 year period of the project.

- The National Fund for Forest Development (FONADEF). Created in the year 2000, this provides financial support for the establishment of long rotation productive forest plantations, including inputs such as seeds and plants; short rotation plantations when these are in the interests of the State; and silvicultural treatments and the restauration or enrichment of forests when the costs of management exceed the value of the timber produced. The baseline investments of FONADEF over the 6 year period of the project are estimated at USD 8 million.
- The National Environment Fund (FNMA): this fund, which was established in 1997, is aimed at wholly or partially financing projects or activities of national interest aimed, at territorial level, aimed at the protection or restoration of the environment. The baseline investment of FNMA over the 6 years of the project are estimated at USD 1 million.

Figure 7. Locations of Ministry of Agriculture/Soils Institute "Soil Polygons" nationwide

58. The main areas in which GEF support will be incremental in nature are:

- The development of tools and capacities for the objective and transparent economic valuation of ecosystem goods and services, leading to increased motivations for their conservation, and to environmental decision-making that will optimise the balance between the interests of diverse stakeholder groups and thereby lead to improved social acceptance and sustainability of conservation strategies. The resulting GEF scenario will therefore contrast with a baseline scenario in which decision-makers are influenced primarily by narrow sector-based considerations focused on financial and productivity-related measures, with the corresponding risk of the sustainability of these sectors being undermined by the degradation of the natural capital on which they depend.
- The application of integrated approaches to environmental management, that take into account the multiplicity and interrelatedness of the goods and services provided by the country's natural ecosystems and production landscapes, and address the spatial flows of environmental impacts and benefits in the most effective and cost-efficient manner possible. The resulting GEF scenario will contrast with a baseline scenario where different types of environmental concerns are addressed in an isolated manner.

59. Achievement of the project's objective will be supported through significant and concrete co-financing from State institutions, which will contribute both to the administrative and operational aspects of the project in general, and to specific technical aspects. In particular,

- **The National Centre for Protected Areas (CNAP)** will provide salary for technical staff and specialists, service contracts for technical studies, monitoring, publications and local rentals, as well as contributions to the Procurement of equipment, goods and services;

- **The National Programme for the Conservation and Improvement of Soils (PNCMS)** will finance activities to promote SLM in demonstration polygons (under Outcome 3.1) and its scaling up in other farms and cooperatives in the project's target localities through agricultural investments and training (under Outcome 3.3);
- **The National Fund for Forestry Development (FONADEF)** will provide finance **to SFM** activities in the form of staff salaries, investments and studies, as well as the generation of proposals for financial instruments (under Outcome 1.2), and the formulation of methodologies for the evaluation of forest degradation and carbon storage in forests and protected areas (in support of Outcome 2.1).
- **National Environment Fund (FNMA)** will finance pilot projects related to BD in the tourism and fishing sectors (under Outcome 3.1) and studies/proposals of financial instruments (under Outcomes 1.2 and 3.2).

Relevance to other initiatives

60. The project will be highly complementary and closely coordinated with two major ongoing GEF initiatives in Cuba:

1) ***A Landscape Approach to the Conservation of Threatened Mountain Ecosystems*** (GEF ID 4846). This project will run until 2022 and therefore will coincide with the project proposed here by around 5 years. Given that project 4846 applies a landscape approach, with a major focus on mainstreaming BD conservation into the management of production landscapes, it will be an important source of technical experiences that will feed into this project. This process will be facilitated by the fact that the CNAP, which will execute this project, will also participate directly in the Project Implementation Unit of project 4846, providing one of its National Coordinators. Coordination and complementarity will be made particularly important by the fact that two of the mountain massif landscapes targeted by project 4846 are adjacent to the coastal and marine landscapes targeted by this project (Guaniguanico massif drains to the north into target locality 1, the north coast of Pinar del Río Province, and Bamburanao massif is adjacent to target locality 2, the north coast of Villa Clara province): this will enable the two projects between them to apply a fully "ridge to reef" perspective to the management of the landscapes in question, with this project providing a more integrated multi-focal area perspective, relative to the focus of project 4846 on BD.

2) ***Capacity Building for Sustainable Financing Mechanisms/Sustainable Land Management in Dry land Forest Ecosystems and Cattle Ranching Areas.*** This project is currently under design, and will be the third of the 5 projects that constitute Cuba's Country Pilot Partnership (CPP) on SLM "Supporting Implementation of the Cuban National Programme to Combat Desertification and drought (NPCDD)" (GEF ID 3427). It will work in Villa Clara province (coinciding with locality 2 of this project) promoting improved SLM techniques in a pre-mountainous ecosystem (dry forest & livestock), and in Cauto River Basin, promoting sustainable management of dry forest resources; it is expected to run until 2020, and will therefore coincide with the present project by around 3 years. The generation through the project proposed here of capacities and information regarding the economic valuation of ecosystem goods and services will feed directly into development of sustainable financing mechanisms through the CPP project; while the technical knowledge generated through the CPP project on SLM in dry land areas will feed into the promotion by this project of an integrated landscape-wide approach linking these SLM aspects with BD and SFM.

61. In addition to the large portfolio of UNDP projects in the country, the project will learn lessons from projects of other agencies, such as the UNEP/GEF project "Capacity Building for Information Coordination and Monitoring Systems/SLM in Areas with Water Resource Management Problems" (GEF ID 3008) within the context of the UNDP-led Country Pilot Partnership (CPP) on Land Degradation. In addition to direct inter-agency links, lessons will be learned and activities coordinated with these and other (current and future) agency projects through the national institutions involved in the projects. Conditions in Cuba are particularly favourable in this regard, given the high levels of inter-institutional participation and interchanges during the formulation, implementation and evaluation phases of all projects, and the role of the Ministry of Foreign Trade and Foreign Investment (MINCEX) in coordinating cooperation projects.

IV. RESULTS AND PARTNERSHIPS

Expected Results*:*

62. The objective of the project will be to promote the generation of multiple environmental benefits based on the integrated economic valuation of ecosystem goods and services, as a tool for decision-making at different levels.

63. All of the areas contain globally- and nationally-important coastal and marine ecosystems, including coral reefs, mangroves and seagrass beds. The coral reefs of Cuba are of regional importance as sources of larval dispersion across the rest of the Caribbean; those on the north coast (on which the project will concentrate) run for around 400km from the Archipiélago de Sábana to the Archipiélago de Camaguey; the majority lie offshore in long tracts which resemble barrier reefs; unlike true barrier reefs, the lagoons separating them from the mainland are typically very shallow, but have to a large extent served to protect them land-based threats[20]. The extensive areas of mangroves in the target localities form part of the WWF "Critical/Endangered" Greater Antilles Mangroves ecoregion, and are home for example to the endemic Cuban crocodile *Crocodylus rhombifer*, classified by the International Union for the Conservation of Nature (IUCN) as Critically Endangered, the IUCN "Vulnerable" Cuban Rock Iguana *Cyclura nubila* and the endemic Desmarest's hutia (*Capromys pilorides*).

64. The project has the opportunity to generate environmental benefits in the Biodiversity focal area, in terms of the conservation status of these ecosystems and species through a mainstreaming approach (consistent with BD4 Programme 9), for example through: the support of fisheries regulations and governance; the promotion of environmentally-sensitive approaches to tourism; the control of pollution from settlements, production sectors and marine traffic; the appropriate siting and design of hydrocarbon exploration, drilling and transhipment facilities and associated site restoration practices; the improvement of agricultural practices upstream in order to reduce sediment inputs into aquatic ecosystems; and the promotion of agroforestry practices with potential to promote cross-landscape biological connectivity, for example for birds migrating between the two wetlands in the north and south respectively of Matanzas Province; and the control of invasive species such as Melaleuca and Dichrostachys cinerea). In conjunction with complementary other strategies including the management of reserves of different categories, it is estimated that the conservation and management status of 600,000ha of coastal and marine ecosystems will be improved as a result of the project.

65. The selection of these sites, which include large areas of agricultural lowlands affected by land degradation, also presents the project with opportunities to develop and demonstrate approaches to Sustainable Land Management, in line with LD4 Programme 5, given the nature of the land degradation processes affecting them, including aquifer degradation and poor watershed management. A total of 1,703.43ha in 10 SLM polygons will be subject to improved SLM as a direct result of the project, with a potential replication effect over the entirety of the SLM polygons in the target municipalities, covering a total area of 400,000ha. These processes affect flows of ecosystem goods and services on which stakeholders throughout the target areas depend, as well as the status of the areas' biodiversity and forest resources. The project will thereby contribute to Sustainable Development Goal 15.3 of land degradation neutrality, through supporting the integrated and complementary application of a combination of measures which will, on the one hand, serve to reduce land degradation threats such as soil erosion and aquifer degradation, with, on the other, measures such as the establishment of agroforestry, appropriate forms of plantation, and natural forest management, with potential actively to revert land degradation processes.

66. The sites will also provide the opportunity to deliver benefits under the Sustainable Forest Management focal area, specifically SFM1 Programmes 1 and 3, through the reduction of pressures affecting the high conservation value forests that occur there. It is estimated that 358,560.90ha of high conservation value forests will be subject to improved protection as a result of the project. These include the swamp forests of the Ciénaga de Zapata wetland, which form part of the Critically Endangered Neotropical Flooded Grasslands and Savannas ecoregion, and include halo-hydatophytic deciduous arboreal elements and epiphytes, and possibly some mangrove elements, with species including *Tabebuia angustata*, *Fraxinus cubensis*, *Annona glabra*, *Gueltarda combiri*, *Sabal*

[20] UNEP/WCMC (2001): World Atlas of Coral Reefs

parviflora, *Bucida palustris*, *Hibiscus elatus*, *H. tiliaceus*, *Jatropha integerrima*, *Copernicia* spp., *Ilex cassine*, *Salix longipes* and *Chrysobalanus icaco*. The forests of Guanahacabibes Peninsula are also of high conservation value, containing an estimated 172 species of birds belonging to 42 families, 11 of which are endemic and 84 are migratory; these include the IUCN Endangered Blue-Headed Quail Dove (*Starnoenas cyanocephala*). Regionally important mangrove forests are also found in all of the target localities.

67. In the target localities, the types of decisions that will be improved as a result of project support (in relation to SFM1 Programme 1) will include, for example:

- The definition of appropiate management and grazing regimes for high conservation value forests such as those of the Guanahacabibe peninsula;
- The definition of restoration strategies for high conservation value forests, reflecting the economic value of the goods and services they provide, and the monitoring of their condition;
- The definition of appropriate levels of investment in the control of wildfires, illegal extraction of forest products, invasive species and grazing in the swamp forests of the Ciénaga de Zapata and Ciénaga Majaguillar wetlands.

68. The project will directly contribute to the following Aichi targets for biodiversity:

- **Strategic Goal A, Target 1:** By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably ***(project Outcome 2.1)***
- **Strategic Goal A, Target 2:** By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems ***(project Outcome 1.1)***
- **Strategic Goal A, Target 3:** By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions ***(project Outcomes 1.2 and 3.2).***
- **Strategic Goal A, Target 4:** By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits ***(project Outcomes 1.1 and 3.1).***
- **Strategic Goal B, Target 5:** By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced ***(through project Outcome 3.3).***
- **Strategic Goal B, Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity ***(through project Outcome 3.3).***
- **Strategic Goal B, Target 10:** By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning ***(through project Outcome 3.3).***
- **Strategic Goal D, Target 14:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable ***(through project Outcome 3.3).***

69. The new NBSAP (titled the National Programme for Biodiversity 2016-2020) is currently under review by national institutions prior to final approval. This project is in accordance with the following goals of the document:

- **Goal 2:** Integration of the values of biological diversity in sector-based and territorial programmes, harmonizing the objectives of conservation and sustainable use in the country's development policies and strategies, and in the processes of decision-making at all levels.

- **Goal 3:** Economic/financial instruments and incentives are available, which contribute to slowing the loss of biological diversity.

70. The project will also contribute to the implementation of the State Plan for Tackling Climate Change (*Tarea Vida*), through its contributions to ecosystem health. In addition, it will contribute to the strengthening of financial mechanisms in support of the goals of *Tarea Vida*.

71. The project will contribute to the studies that are being carried out in support of the UN Framework Convention on Desertification and Drought (UNCCD), which in Cuba is implemented through the Country Association Programme for the Combat of Desertification and Drought. It is intended to contribute new results in relation to the economic valuation of ecosystem services related to productive agroecosystems, which to date has only been addressed to a limited extent in the National Programme. To this end, it is proposed to carry out demonstrations of the principles of sustainable land management in 10 municipal forest, water and soil polygons. Alliances have therefore been established with the National Programme for the Improvement and Conservation of Soils (PNMCS), as the financial mechanism of the Cuban Government that contributes to the implementation of the UNCCD.

Outcomes and components

72. The project's activities and outputs, required for the achievement of this objective, will be structured within three interrelated and interdependent components.

Component 1: Legal, policy and institutional frameworks in key sectors favouring the generation of global environmental benefits (BD, LD and SFM)

Component 1 Outcomes:

Policies, strategies, plans and regulations concerning national issues (e.g. prices, taxes and investments) and the development of key target sectors with particular implications for global environmental values (fisheries, agriculture, forestry, tourism, mining, hydrocarbons) take into account the results of economic evaluations of their environmental implications of relevance to BD, LD and/or SFM:

- Policy, planning and strategy documents determining the directions and priorities of the key target sectors
- Regulatory instruments (judicial and technical norms, e.g. EIA) determining the nature, locations and environmental implications of the key target sectors

Financial instruments support the optimisation at local and regional levels of flows of ecosystem goods and services (of relevance to BD, LD and/or SFM) associated with the activities in the target sectors, based on the results of economic valuations, covering (to be confirmed):

- Forestry development (FONADEF), environment (FNMA), soils, water and forests (PNCMS), tourism, fisheries, customs duties, environmental insurance and disaster response and recovery.

Strengthened human and institutional capacities for the incorporation of economic valuation of ecosystem goods and services in institutions covering the target sectors:

MEF, MFP, MINAG, MINTUR, MES, MINAL, MINEM, CITMA, ONEI, IPF, INRH, BCC (to be confirmed, together with metholodogies and baseline/target values)

Component 1 Outputs:

73. Under this component, the project will work at national level to support the application of the results of the economic valuation of ecosystem goods and services and improved multi-stakeholder decision-making processes into policy and planning frameworks, resulting in an increasingly favourable enabling environment for the application of integrated approaches for generating global environmental benefits (GEBs), while at the same time satisfying sector development and food security needs in a sustainable manner. This will create conditions allowing the eventual generation of significant GEBs nationwide, contributing to the reduction of sector-based threats to biodiversity, especially in threatened and important coastal and marine environments such as mangroves and coral reefs (although the enabling environment improvements will eventually have implications across all landscapes), the improved protection of high conservation value forests due to improved spatial planning of sector development and conservation, and improvements to land management in the agricultural and forestry sectors. The GEBs to be generated are discussed in more detail in Section 5 below.

1.1 Proposals for inclusion of economic valuation results into policies, strategies, plans and regulations

74. The project will support the reflection of the results of economic valuation of ecosystem goods and services in policies, strategies, plans and regulations, including considerations of distributional equity and uncertainty. The specific instruments and issues to which these proposals will refer include the following:

- Policies, strategies and plans for the development of, and investment in, key sectors such as tourism and petroleum, where there is a particular need to optimise trade-offs between the priorities of economic development, the generation of hard currency and the provision of employment opportunities on the one hand, and the maintenance of natural capital, ecosystem goods and services and the conservation of global environmental values on the other.
- The adjustment of regulatory instruments covering issues such as methodological and content requirements for processes of environmental impact assessment and spatial planning; prohibitions or limitations on productive activities; and/or requirements for multi-stakeholder consultation.

75. Activities in support of this output will be closely coordinated and planned with the BIOFIN initiative. Documents relating to policy, legal, regulatory and institutional frameworks that directly or indirectly incorporate considerations of the economic valuation of ecosystem goods and services will be compiled. On the basis of this, gaps in the policy, legal, regulatory and institutional framework related to the economic evaluation of ecosystem goods and services and the use and conservation of BD will be identified, and the implications of these for effectiveness of decision-making will be evaluated. An analysis document of policy, legal, regulatory and institutional framework related to the economic evaluation of environmental goods will be generated, and meetings and workshops will be held for the exchange of technical criteria between national, sector and territorial specialists and for the analysis of the implementation of policy, legal, regulatory and institutional framework related to the economic evaluation of environmental goods, culminating in a national workshop for the socialisation of the results of the analyses.

1.2 Strengthened inter-sector platforms for the negotation of environmental issues

76. Existing inter-sector platforms will be strengthened in terms of their effectiveness in facilitating the negotiation of environmental issues that cross sector divisions, based on the results of valuations of ecosystem goods and services. These issues may include, for example, potential conflicts between the interests of the tourism, hydrocarbon and fisheries sectors in relation to the management of coastal and marine ecosystems, and conflicts between these production sector goals and the targets and commitments of the environment sector. To this end, the project will support meetings and workshops for the identification of sector interests in the inclusion of economic valuations and the use and conservation of biodiversity (including analyses of conflicts in decision-making), and meetings of experts at national, sector and territorial levels for the analysis of options for solutions to conflicts. The results of these processes, in terms of proposals of mechanisms for the negotation of environmental issues and the resolution of conflicts, will be presented and discussed in a national socialization workshop.

1.3 Strengthened entities for the analysis of policy implications of the results of valuations of ecosystem goods and services

77. On the basis of specific capacity development needs analyses to be carried out early on in the implementation phase of the project, institutional and interinstitutional capacities for analysis of the policy implications of the results of economic valuations of ecosystem goods and services will also be strengthened, in entities including the Ministry of Science, Technology and Environment (CITMA), the Institute of Physical Planning (IPF), the Ministry of Finance and Prices (MFP) and the Ministry of Economy and Planning (MEP). This will provide a key link between improvements in the access of these institutions to reliable information on ecosystem goods and services and their values, to be achieved under Component 2, and the negotiation of their implications and their reflection in policy, strategies, planning and regulatory instruments as proposed under this component.

1.4 Proposals of methodological protocols and/or legal instruments for the incorporation of ecosystem valuation into key processes and procedures:

78. In addition to the development of regulatory instruments as proposed above, the project will provide target institutions with technical support in the definition of methodological protocols for the incorporation of the results of economic valuation of ecosystem goods and services into key processes and procedures, including the following:

- Environmental accounting and its use at national level and in individual sectors and businesses as a guide to decision making and policy formulation;
- Mechanisms for determining the levels and types of mitigation and/or rehabilitation activities required in response to environmental impacts generated by productive sector activities, in order to ensure that these reflect adequately the severity and implications of the impacts, as determined by the economic valuation of ecosystem goods and services;
- Conversely, incentive instruments for promoting environmentally-friendly forms of activity, in order to determine the levels of incentives that are warranted in relation to the levels of benefits likely to be generated (determined through valuation of ecosystem goods and services);
- Land use and sector development plans, in order to facilitate the identification of optimum land use configurations in terms of their net implications for ecosystem goods and sevices;
- Environmental impact assessment procedures, in order to maximize the objectivity with which impacts are presented to decision makers, and design alternatives and mitigation measures are evaluated;
- Requirements for insurance against the risk of the generation of environmental impacts, in order to ensure that the premia and sums insured reflect the magnitude of the potential impacts on ecosystems and the goods and services that they provided (determined in part through ecosystem valuation).

79. The specific instruments to be targeted under this output will be confirmed during the implementation phase, on the basis of structured processes of analysis and planning. The effectiveness of existing economic and financial instruments at national and sector levels related to productive activities and sectors will be analysed, focusing in particular on those of relevance to conservation, spatial planning, EIA, environmental insurance, agriculture, forestry, fisheries, tourism and hydrocarbons. Specific instruments to be reviewed and analysed in detail will include Joint Resolution #1 (MFP/MEP FONADEF Regulation), the procedures of FNMA, and the manual of procedures of the PNMCS. Technical meetings and consultations will be held on proposals for the modification or creation of economic-financial and environmental mechanisms incorporating the economic valuation of ecosystem goods and services, culminating in the realization of a workshop for the socialization of proposals.

80. The project will also analyse options for reflecting the results of economic valuations through environmental accounting schemes, supporting analyses of institutional capacities for the development of environmental accounting schemes at national and business levels, the formulation of proposals of methodological designs for environmental accounting systems, and a national workshop for the socialization of proposals.

81. The project will support exchanges of experiences and lessons learned at international level on the incorporation of the economic valuation of ecosystem goods and services into the application of economic-financial and environmental instruments, including participation in national and international events.

1.5 Strategies and programmes for training on incorporation of economic valuation into decision making

82. The project will also support the development and implementation of strategies and programmes for capacity development regarding the incorporation into decision making of the results of economic valuation of ecosystem goods and services. The target audiences for this will include the principal institutions with responsibilities for environmental decision-making, planning and regulation, and for the key sectors in which environmental conflicts are likely to arise, namely the Ministries of Economy and Planning (MEP), Finance and Prices (MFP), Agriculture (MINAG), Tourism (MINTUR), Higher Education (MES), Foodstuffs (MINAL), Energy and Mines (MINEM), Science, Technology and Environment (CITMA), the National Office of Statistics and Information (ONEI), the Institutes of Physical Planning (IPF) and Hydrological Resources (INRH), and the Central Bank of Cuba. It will be aimed in particular at ensuring that adequate capacities exist in these institutions for understanding the concepts of economic valuation of ecosystem goods and services, for understanding, analysing and contextualising the results of the process, and for incorporating its results into the types of environmental decision-making listed above.

Component 2: Targeted scenario analysis guiding decision-makers on the implications of different courses of action in the target sectors affecting natural resources and global environmental values

Component 2 Outcomes:

Decision-makers have access to useful and relevant information on the environmental implications of different courses of actions, in the following institutions (to be confirmed), allowing policy formulation and decision-making that optimises the generation of global environmental benefits (in terms of BD, LD and SFM) in the target sectors: MEF, MFP, MINAG, MINTUR, MES, MINAL, MINEM, CITMA, ONEI, IPF, INRH, BCC, OLPP

Component 2 Outputs:

83. Activities under this component will help to ensure that actors in key institutions have access to the information on ecosystem goods and services and their values (under alternative macroeconomic and climate change scenarios), and the environmental implications of different courses of actions, that they require for the environmental decision-making processes that fall under their respective responsibilities and that will determine the generation of the expected global environmental benefits (see Section 5). The target audiences for this information will (subject to confirmation through PPG studies) include institutions such as MEF, MFP, MINAG, MINTUR, MES, MINAL, MINEM, CITMA, ONEI, IPF, INRH, BCC and local Governments (Local Organisms of Popular Power or OLPP). This information access will be an essential requirement for the improvements to policy and regulatory frameworks proposed under Component 1.

84. Attention will be paid to facilitating the integration of the numerous different mechanisms that exist for environmental planning and decision-making (such as EIA, LUP, sector development planning, the definition of environmental norms, fines and incentives, and project/programme monitoring systems) by supporting the development of harmonized measures of the values of ecosystems and their goods and services.

2.1 Mechanisms for the management of and access to information

85. The project will support the development and/or strengthening of mechanisms for the management of and access to information by decision-makers and planners, resulting in the establishment of a functioning information system for decision-making (Spanish acronym SINDE). These will allow them to take into account and build on the existing baseline of information on ecosystems and their goods and services in Cuba, and so will include accessible compendia and databases of such existing information; case studies bringing together existing information on specific issues and sectors (such as the economic importance of mangroves and their services in terms of ecosystem-based adaptation and maintaining the biological productivity of fisheries); and methodological knowledge and lessons learnt to date with economic valuation (in Cuba, this dates from the 1990s, with around 50 studies carried out between the years 2000 and 2012). The project will take advantage wherever possible of existing mechanisms for information management and dissemination, such as the INFOGEO system managed by CITMA[21].

86. Key activities in support of this output will include:

- Support to an initial workshop for the assessment of the current status and needs for information for decision-making among target groups at different levels, including needs for infrastructure and capacity development.
- Design and provision of infrastructure for the information system at different levels.
- Analysis of information flows to be incorporated into the database of the system
- Establishment of technical files for decision-making.
- Definition of indicators for measuring the effectiveness of decision-making.
- Formulation of compendia and assessments of information available on economic valuation of ecosystem goods and services, economic analyses of environmental impacts, economic valuation of good practices and scenario analysis
- Formulation of alphanumeric and spatial database and information repository
- Analysis and digital processing of images of the intervention areas.

[21] http://www.ecured.cu/Portal_INFOGEO

- Development of thematic mapping needed for the assessments of each intervention area or other tools that are needed (Environmental Planning Models or MOAs, BD monitoring, scenario analysis, etc.)
- Information analysis and modelling of different scenarios and decisions.
- Implementation of the outputs resulting from the information system
- Establishment/updating of indicators (of processes/management for the measurement of the effectiveness of decision-making based on the information management systems (survey)

2.2 Methodological tools in support of Targeted Scenario Analysis (TSA)

87. The project will support the development and application of methodological tools for the analysis and application of information in support of objectively informed decision making (TSA), focusing on, for example:

- The economic valuation of ecosystem goods and services and the implications of different context scenarios (e.g. climate change and macroeconomic factors) and management options, as a guide to decision making.
- Cost-effectiveness analysis of alternative strategies (e.g. incentives, fines) for internalizing flows of costs and benefits resulting from environmental management, balancing the levels of potential income from fines against the economic value of the environmental impacts avoided, and the levels of expenditure on incentives against the economic value of the environmental benefits potentially generated, as well as the administration costs of the instruments.
- Determining the effectiveness of valuation-based decision-making, planning and management instruments, based on the the results of monitoring of corresponding uptake of resource management practices and their implications for ecosystem conditions.

88. Key activities in support of this output will include:

- Development and validation of methodologies for the formulation and analysis of scenarios (TSA) related to the economic valuation of ecosystem goods and services and decision making, and for the characterization of ecosystem goods and services in the intervention areas, based on the results of information collection and the monitoring of the selected ecosystems
- Development of methodologies for the evaluation of forest degradation
- Development of methodologies, for the economic valuation of damages caused by large forest fires, of ecosystem goods and services in productive sectors and selected ecosystems and of the impacts affecting these goods and services
- Development of methodology for the design, application and control of economic-financial instruments that include the value of ecosystem goods and services in policies, pl;ans, programmes and production sectors
- Formulation of a general proposal for a financial mechanism for the SNAP
- Formulation of a methodology for the economic valuation of measures of mitigation and adaptation to climate change baed on the economic valuation of ecosystem goods and services in selected ecosystems
- Methodology for the elaboration and analysis of strategies for decision making related to the use and conservation of biodiversity.
- Methodological procedure for the spatial analysis of ecosystem goods and services in function of decision making under different scenarios. (SINDE)
- Formulation of a methodology for socio-environmental analysis linked to the use and conservation of BD

2.3 Results of economic valuations to address priority issues and threats in the target sectors

89. The tools and capacities developed above will be applied through the project in the following studies:

- Economic valuation studies of priority issues and threats in key selected target sectors, including tourism, agriculture, livestock, forestry, fisheries and hydrocarbons.
- Economic valuation studies will then be carried out of measures for the reduction of impacts in each of these sectors.

- Studies of forest degradation and the evolution of carbon reserves, taking into account different scenarios, and comparative analyses of the evolution of carbon reserves and its economic implications, based on different methodologies (ExACT and the Cuban methodology)

90. The results of these studies will be presented to key actors in production sectors at national and territorial levels.

2.4 Communication mechanisms and awareness raising materials

91. The project will ensure that the information generated and/or managed through the above processes reaches decision-makers and planners through the establishment of mechanisms and materials for awareness raising and dissemination, focusing in particular on the economic values of ecosystem goods and services, and the implications for these of alternative management decisions.

92. The communication and capacity development needs of the target audiences in relation to issues concerning the economic valuation of ecosystem goods and services will be assessed, and a strategy or programme will be developed for training and awareness raising at different levels. Materials for awareness raising will be formulated in accordance with the needs identified for each of the target audiences, and evaluations will be carried out of the effectiveness of the application of communication products.

Component 3: Pilot experiences generating, validating and demonstrating instruments for optimizing and internalizing the values of ecosystem goods and services in the target sectors and associated landscapes

Component 3 Outcomes:

Decisions with environmental implications are taken in an informed and consensus-based manner in the target localities and sectors, taking into account the valuation of ecosystem goods and services and the results of TSA, through improvements to processes for:

- At least ***4 new Environmental Impact Assessment studies*** of sector development initiatives will receive the technical support of the project to apply methodologies that include provisions for reflection of the economic value of ecosystem goods and services
- 17 municipal plans covering **1,494,875ha**
- 10 management programmes for demonstration areas (SLM polygons) covering **1,703.43ha**, where SLM practices are prioritized in agricultural production

15 PA management plans (covering **1,039,093.44ha**) maximizing their effectiveness in tackling sector-based threats

Production systems and conservation areas in target localities with improved management and protection to favour the generation of multiple global environmental benefits

- **7,000ha** of forests subject to improved management in 7 forest polygons (5 forest enterprises - Guanahacabibes, M. Matahambre, La Palma, Matanzas, Las Tunas - and 2 protected areas)
- **3,500ha** of reforestation
- **1,703.43ha** of agroecosystems in 10 demonstration polygons
- **1,039,093.44ha** in 15 protected areas with improved management and protection

93. Under Component 3, the project will operate at field level to generate, validate and demonstrate nationally-replicable models of:

- **Negotiated multi-variable, multi-stakeholder decision-making** at local and provincial levels, that incorporates the results of economic valuation, considering the distributional implications of alternative resource management strategies under a range of assumptions and scenarios (including macroeconomic and climate change trends);
- **Instruments of incentives and sanctions for resource management practices** with different environmental implications;
- **Resource management practices with potential to generate multiple environmental benefits**: while a number of these strategies have already been developed and promoted through other GEF projects in the country, this project will focus on demonstrating how to adapt, locate and integrate them so that they address landscape-wide flows of environmental costs and benefits, thereby optimising benefit generation and distribution.

94. This demonstration support will result, during the project lifetime, in decisions with environmental implications being taken in an informed and consensus-based manner in the pilot localities, taking into account the valuation of ecosystem goods and services and alternative context scenarios. This will result in concrete impacts in terms of the generation of GEBs and the sustainability of sector development and food security in the pilot areas,

95. The decision-making instruments in which this will be reflected will include EIA, municipal (and provincial in the case of Matanzas) land use plans covering the entirety of the target localities, sector and local development programmes, management programmes for SLM polygons, PA management plans and agroforestry enterprise plans.

Table 6. Municipalities targeted for inclusion of ecosystem goods and services in spatial plans

Provincia	Municipality	Areas of action
Pinar del Río	Viñales	1. Support to formulation of environmental planning models (*Modelos de Ordenamiento Ambiental*) for municipalities 2. Formulation of Municipal Territorial Planning Programmes (*Programas de Ordenamiento Territorial Municipales*) 3. Updating of Provincial Territorial Planning Programme for Matanzas Province).
Matanzas	Matanzas, Cárdenas, Martí, Colón, Perico, Jovellanos, Pedro Betancourt, Limonar, Unión de Reyes, Ciénaga de Zapata, Jagüey Grande, Calimete, Los Arabos	
Villa Clara	Sagua la Grande	
Las Tunas	Manatí	
Holguín	Gibara	
Total	**17**	

96. Furthermore, as a result of the project producers in the target localities will have increased knowledge and technical capacities for the application of production practices that optimize flows of ecosystem goods and services, and as a consequence will increasingly be adopting these practices by the end of the project in sectors including agriculture, fisheries, tourism and forestry.

97. To this end, the project will deliver a number of outputs in the target localities, which will have the joint aims of generating demonstrations with the potential for scaling up to national level, and of achieving concrete and significant social, economic and global environmental benefits. These benefits will include the reduction of pressures on globally important biodiversity at ecosystem and species levels, through modifications to productive practices; the reduction in pressures on high conservation value forests; protection of the productive, hydrological and resilience services of ecosystems for local communities; and increase climate resilience of production systems.

98. The project will support the creation of an enabling environment at local level, through the generation of proposals for the inclusion in local policy and normative frameworks of considerations of values of ecosystem goods and services. This will mirror the policy support to be delivered under Component 1, but will focus specifically on policies and normative frameworks developed and implemented at local levels in the target localities, by regional and local Governments (Local Organisms of Popular Power or OLPP). These proposals are likely (subject to PPG studies and consultations) to cover issues such as sector development priorities and/or normative restrictions on the levels or types of productive and extractive activities permissible in the OLPP's areas of jurisdiction.

Table 7. Protected areas to be targeted for incorporating the results of economic valuations into management instruments

Province	Protected Area	Areas of action of the project
Pinar del Río	Guanahacabibes National Park	1. Economic valuation of ecosystem goods and services in protected áreas. 2. Determination of the optimum level of entry fee for each Pas 3. Incorporation of results of economic valuations of ecosystem goods and services
	Viñales National Park	
	Los Pretiles Fauna Refuge	
	Mil Cumbres Managed Resource Protected Area	
Matanzas	Península de Zapata Managed Resource Protected Area	
	Ciénaga de Zapata National Park	
	Zapata Cave Lake System Outstanding Natural Element	
	Varahicacos Natural Protected Landscape	

Province	Protected Area	Areas of action of the project
	Valle del Río Canimar Protected Landscape	into Management Plans 4. Analyses of conflicts with other sectors and participation in negotiation platforms 5. Application of methodology for evaluating forest degradation
Villa Clara	Los Caimanes National Park	
	Cayo Santa María Fauna Refuge	
	Las Picúas - Cayo Cristo Fauna Refuge	
	Lanzanillo - Pajonal - Fragoso Fauna Refuge	
Las Tunas	Bahía de Nuevas Grandes - La Isleta Fauna Refuge	
Holguín	Caletones Ecological Reserve	
Total	15	

Component 3 Outputs:

3.1 Local level systems and mechanisms for information management, exchange and analysis

99. Local level systems, mechanisms, platforms and databases for the management, exchange and analysis of information will be established and/or strengthened, in support of environmental decision-making based on valuation of ecosystem goods and services. These again will mirror the types of platforms which it is proposed to establish or strengthen under Component 1 at national level, but will be specific to local institutions or local dependencies of national institutions such as CITMA, IPF, MPF and MEP.

100. Assessments will be carried out of the current status and needs of information for decision making (information flows, users, sources) at local level, and on the basis of these the information to be incorporated in the mechanisms will be defined. Institutional capacities will be strengthened at local level for the application of an information system for decision making, information will be compiled, cartographic information on the intervention areas will be validated, and technical files for decision-making at local level will be developed. A mechanism will be developed at local level for linking the alphanumeric and spatial database with emphasis on issues related to the project, and the respective metadata. Indicators will be developed and applied for measuring the effectiveness of the information system associated with decision making at local level.

3.2 Strengthened local mechanisms for negotiation of environmental issues and conflicts

101. Local mechanisms for negotiation of environmental issues and conflicts related to ecosystem goods and services will also be strengthened. This support will focus in particular on using the results of ecosystem valuation to help the diverse stakeholders potentially affected by environmental decisions to balance their respective interests. In the case of proposals to establish tourism infrastructure in coastal environments, for example, these actors might include the tourism developers (MINTUR and possibly private sector investors), who may have to balance alternative options of design, location and compensation/mitigation strategies; representatives of local State-owned fisheries enterprises, whose interests might be affected by possible impacts on the fisheries provisioning role of coastal ecosystems; representatives of local communities who may be dependent on the role of the coastal ecosystems in buffering against the effects of climate change, yet may at the same time be potential beneficiaries of the employment and services opportunities generated by the proposal; and local Governments, responsible for balancing local interests within the context of local and national development plans.

102. There is already a well-established baseline of mechanisms for multi-stakeholder negotiations regarding environmental issues, and the project will focus wherever possible on supporting these. These include, for example, integrated coastal zone management authorities, watershed commissions, provincial PA coordination boards, reforestation commissions, commissions on agrarian affairs, provincial and municipal administration councils, and provincial investment consultation groups.

103. Assessments will be carried out of the principal environmental conflicts existing at local level, that involve the selected sectors, and meetings will be held for the exchange of technical criteria between specialists at local level, the analysis of intersector platforms for the selection of conflicts related to the economic value of ecosystem goods and services, the generation of proposals for updates to mechanisms for the solution of conflicts between intersector platforms, and the dissemination and discussion of the final proposals of the mechanisms.

3.3 Pilots of methodological tools for the incorporation of ecosystem valuation into local decision-making mechanisms

104. The project will support pilots of methodological tools for the incorporation of ecosystem valuation into local decision-making mechanisms, including Environmental Impact Assessments (EIA), spatial planning (including environmental planning models or MOA), PA management plans, and local sector and development plans. Key institutional actors in this regard will include Provincial and Municipal Departments of Physical Planning (DPPF and DMPF), within the frameworks of Provincial and Municipal Spatial Planning Strategies and Plans (EPOT/PPOT and PGOT/PGOU). This methodological support will focus on the modelling of the net and distributional implications of alternative scenarios of land use and spatial organization, in terms of the economic values of ecosystems and the goods and services that they generate for different stakeholders.

105. Adjusted methodologies for EIA will be applied and validated at local level, and meetings will be held to propose the incorporation of de MOA in the physical/natural component of Municipal Spatial Planning Schemes. The following instruments will be updated in the intervention areas on the basis of the economic valuation of ecosystem goods and services:

- Spatial Planning Schemes at provincial level in Matanzas;
- Management plans of selected protected areas;
- Management plans for agricultural, forestry, fisheries and tourism sector activities in the target polygons and intervention areas.

3.4 Capacities and systems for environmental monitoring

106. The project will support capacities and systems for environmental monitoring in the target localities, focusing in particular in monitoring trends in the condition of priority ecosystems in relation to the selected ecosystem goods and services. This will constitute an essential complement to the other forms of support, as it will permit the evaluation of the effectiveness of incentive and management strategies aimed at optimising ecosystem goods and services, and the identification of corresponding needs for adjustments; and the definition of baselines values of ecosystem conditions and responses, enabling the generation of predictions of the responses of flows of ecosystem goods and services to different management strategies and context scenarios.

107. Assessments will be carried out of the current status of the prioritized ecosystems and production sectors selected for the project, including environmental conflicts and with special emphasis on BD values. A system will be designed and applied for monitoring tendencies in the conditions of priority ecosystems and key sectors, including key indicators covering biological, climatics, hydrometeorological, edaphic and other parameters. The effectiveness of incentives and management strategies will be analysed, based on the results of the monitoring of key indicators in key ecosystems and sectors.

3.5 Proposals of financial instruments

108. Proposals of financial instruments will be formulated and piloted in the target areas, based on the results of economic valuations. These may include for example direct monetary payments for the implementation of environmentally-friendly forms of production, subsidies or duty exemptions on equipment and materials, or fiscal incentives.

Table 8. Proposals of instruments by ecosystem and impacts

Ecosystem	Ecosystem service	Impacts to be addressed	Actors involved	Instruments to be applied
Coral reefs	Scenic beauty, coastal protection, habitat for species	Damage due to inappropriate anchoring, fishing, diving, pollution	Tourism, cruise sector, industry, housing	Fines, PES schemes, reparation of damage, conservation fund
Seagrass beds	Habitat for species, medicinal value, climate regulation	Impacts on the sea floor, pollution, overfishing	Fisheries, tourism, industry, housing	Reparation of damage, conservation fund
Manglares	Coastal protection, habitat for species, CO_2 capture,	Felling of mangroves, loss of cover, loss of habitat,	Forestry, fisheries,	Reparation of damage, conservation fund,

Ecosystem	Ecosystem service	Impacts to be addressed	Actors involved	Instruments to be applied
	scenic beauty	reduced productivity, impacts on fishing, increase of vulnerability to climate change	tourism, housing	fines, charges for resource use, PES
Agroecosystems	Food production, CO_2 capture, soil formation, pollination	Drought, loss of productivity, impacts on soil	Farmers	PES, fund for best practices, soft credits, subsidies,
Forests	CO_2 capture, protection against extreme events, production of resin and timber, pollination, erosion control, coastal protection, habitat for species	Loss of forests and forestry production, reduced protection from extreme events, reduced CO_2 capture, impacts on species habitat	Forest enterprises, agricultural producers, INRH, housing	PES, conservation funds, fund for best practices, system of transferible permits, subsidies, fines for damage

Table 9. Instruments and financing schemes proposed by sector

Sector / Activity	Instruments
Forestry (FONADEF)	• Payment for environmental services for carbon capture • Payment for environmental services for carbon capture for hydrological services • Payment for environmental services associated with pollination
Agriculture and livestock (PNMCS)	• Economic incentives for SLM practices • Certification of practices that promote SLM • Subsidies for productos that promote sustainable production practices
Fisheries	• Economic incentives for good fisheries practices that promote the conservation of marine biodiversity
Tourism (Tributes Law)	• Application of payments related to the use of beaches
Hydrocarbons	• Environmental insurance against oil spills during extraction or transportation
Conservación (FONADEF, PNMCS)	• Determination of the tariff for entry fees to protected areas • Protected area conservation funds based on entry fees and other income sources • Payment for environmental services for removal of carbón, hydrological services, pollination, diving activities, boating and sport fishing • Economic incentives for good SLM practices • Certification of practices that promote SLM

109. The tourist development foci where the project will support the analysis and implementation of financial instruments are shown in Table 10.

Table 10. Tourism development foci for the formulation and piloting of financial instruments

Province	Tourism development focus area
Matanzas	Varadero
	Ciénaga de Zapata
Villa Clara	Cayería Norte
Holguín	North of Holguín (from Gibara to Antilla)

3.6 Demonstrations of the productive and environmental viability of management practices

110. The project will support demonstrations of the productive and environmental viability of management practices with potential for optimizing the flows of ecosystem goods and services, taking into account the results of ecosystem valuations and economic evaluations and the potential implications of changes in macroeconomic and climatic conditions. These will include:

- **Agroforestry and silvopastoral systems**, aimed at reducing the impacts of grazing and fire on ecosystems such as the forests of the Ciénaga de Zapata del Ciénaga del Majaguillar wetlands, and building as appropriate on lessons learned through UNDP-GEF project "A Landscape Approach to the Conservation of Threatened Mountain Ecosystems" (GEF ID 4846).
- **Mangrove restoration** in order to offset, mitigate and/or reverse the impacts of development activities affecting coastal ecosystems, such as tourism or the extraction or transhipment of hydrocarbons; such restoration would learn from the experiences of the Adaptation Fund Project "Reduction of vulnerability to coastal flooding through ecosystem-based adaptation in the south of Artemisa and Mayabeque provinces".
- **Low-impact, ecosystem-focused approaches to tourism** including measures for avoiding and mitigating environmental impacts; such as controls on the composition, volumes and locations of liquid waste emissions, avoidance of physical damage to coral reefs during construction and operation, and the management of natural ecosystems (such as mangroves and other coastal forests) as attractions for sustainable ecotourism. This approach will draw lessons from the sustainable tourism elements of the UNDP-GEF project "Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana Camaguey Ecosystem" (GEF ID 2633). In selected protected areas (see Table 11, the project will support the design of tourism products (e.g. hiking and nature trails, diving, and sport fishing) in marine and terrestrial environments, guided by the results of economic valuation studies, as well as the development and application of financial instruments for the conservation and management of ecosystems in tourism areas.
- **Sustainable fishing practices** including the use of appropriate fishing gear and the respect of temporal and spatial limitations on fishing activities, building on models developed and applied in Sabana Camaguey and in the UNDP-GEF project "Application of a Regional Approach to the Management of Marine and Coastal Protected Areas in Cuba's Southern Archipelagos" (GEF ID 3607). Specific fisheries to be targeted will include ostiones, sponges and scale fish, and project support will be targeted at the fisheries establishments listed in Table 12.
- **Management of invasive alien species** such as *Melaleuca* and *Dichrostachys cinerea*, building on lessons learned through UNDP-GEF project "Enhancing the Prevention, Control and Management of Invasive Alien Species in Vulnerable Ecosystems" (GEF ID 3955).
- **Sustainable agriculture**, building as appropriate on lessons learned through UNEP-GEF project "Capacity building for information coordination and monitoring systems/SLM in Areas with Water Resource Management Problems" (under "CPP Cuba: Coordination, Monitoring and Evaluation of Cuba Country Pilot Partnership on Sustainable Land Management", GEF ID 3587).

Table 11. Target protected areas (PAs) for the promotion of nature tourism

Province	Management category	PA name
Pinar del Río	National Park	Guanahacabibes
	National Park	Viñales
Matanzas	Managed Resource Protected Area	Península de Zapata
	National Park	Ciénaga de Zapata
	Outstanding Natural Element	Sistema Espeleolacustre de Zapata
	Protected Natural Landscape	Varahicacos
	Protected Natural Landscape	Valle del Río Canimar
Villa Clara	National Park	Los Caimanes
	Fauna Refuge	Cayo Santa María
	Fauna Refuge	Las Picúas - Cayo Cristo
	Fauna Refuge	Lanzanillo - Pajonal - Fragoso
Holguín	Ecological Reserve	Caletones (Tanques Azules)

Table 12. Target fishing establishments for the promotion of sustainable fisheries practices

Province	Municipality	Fishing establishment
Villa Clara	Sagua la Grande	Isabela
	Caibarién	Caibarién
Las Tunas	Manatí	Puerto de Manatí

111. The proposals of sustainable production practices summarized above were generated during the PPG phase by the team members based in each of the project intervention areas, on the basis of their technical experience and local knowledge. During the implementation phase of the project, these practices will be confirmed on the basis of further, more detailed, evaluations of the threats, vulnerabilities, and current and potential impacts in each of the selected ecosystems and intervention sites, with each proposed practice being specifically related to the reduction of identified threats; the practices will further be justified on the basis of the results of economic valuation studies of the ecosystem goods and services and environmental impacts in the selected production sectors (10 SLM polygons, 7 forestry polygons, 3 fisheries establishments and 15 protected areas). It is foreseen that proposals will be developed for the forestry, agriculture, livestock, fisheries, tourism, and conservation sectors. Once identified, the proposed practices will pass through a further filter in the form of technical and economic pre-feasibility evaluations; depending on the results of these evaluations, plans will be developed and then implemented for the application of the practices and the corresponding reduction of the identified impacts.

112. The project will promote the application of the proposed practices within the framework of integrated approaches to the planning and management of natural resources: the existing Soils Information System (SIS) will be updated for use in integrated soil management and planning of agriculture and biodiversity conservation; and planning will be supported in an innovative manner through the creation of virtual models of the reality on the ground, based on information on soils, wáter resources, vegetation cover, relief, climate, land ownership, land use, road infrastructure and population, in relation to biodiversity.

113. Close attention will be paid to following-up the management practices once they are implemented, including the quantitative evaluation of their environmental effects, for example through the application of methodologies for quantifying runoff of soils and nutrients in productive systems, including isotopic techniques.

3.7 Programmes for development of technical capacities at local level for application of management and restoration options

114. A strong emphasis will be placed on the development of technical capacities at local level for the application of management options into which environmental considerations will be mainstreamed, among local actors in the agriculture, livestock, forestry, tourism, fisheries, petroleum and conservation sectors. This will be achieved through a range of approaches including demonstrations, training and horizontal exchanges of knowledge and experience between practitioners.

Partnerships:

115. The project will be highly complementary and closely coordinated with two major ongoing GEF initiatives in Cuba:

- ***A Landscape Approach to the Conservation of Threatened Mountain Ecosystems*** (GEF ID 4846)[22]. This project will run until 2022 and therefore will coincide with the project proposed here by around 5 years. Given that project 4846 applies a landscape approach, with a major focus on mainstreaming BD conservation into the management of production landscapes, it will be an important source of technical experiences that will feed into this project. This process will be facilitated by the fact that the CNAP, which will execute this project, will also participate directly in the Project Implementation Unit of project 4846, providing one of its National Coordinators. Coordination and complementarity will be made particularly important by the fact that two of the mountain massif landscapes targeted by project 4846 are adjacent to the coastal and marine landscapes targeted by this project (Guaniguanico massif drains to the north into target locality 1, the north coast of Pinar del Río Province, and Bamburanao massif is adjacent to target locality 2, the north coast of Villa Clara province): this will enable the two projects between them to

[22] https://www.thegef.org/project/landscape-approach-conservation-threatened-mountain-ecosystems

apply a fully "ridge to reef" perspective to the management of the landscapes in question, with this project providing a more integrated multi-focal area perspective, relative to the focus of project 4846 on BD.

- ***Capacity Building for Sustainable Financing Mechanisms/Sustainable Land Management in Dry land Forest Ecosystems and Cattle Ranching Areas*** (GEF ID 9301)[23]. This project was approved in July 2017, and is the third of the 5 projects that constitute Cuba's Country Pilot Partnership (CPP) on SLM "Supporting Implementation of the Cuban National Programme to Combat Desertification and drought (NPCDD)" (GEF ID 3427). It will work in Villa Clara province (coinciding with locality 2 of this project) promoting improved SLM techniques in a pre-mountainous ecosystem (dry forest & livestock), and in Cauto River Basin, promoting sustainable management of dry forest resources; it is expected to run until 2020, and will therefore coincide with the present project by around 3 years. The generation through the project proposed here of capacities and information regarding the economic valuation of ecosystem goods and services will feed directly into development of sustainable financing mechanisms through the CPP project; while the technical knowledge generated through the CPP project on SLM in dry land areas will feed into the promotion by this project of an integrated landscape-wide approach linking these SLM aspects with BD and SFM.
- ***Introduction of New Farming Methods for the Conservation and Sustainable Use of Biodiversity, including Plant and Animal Genetic Resources, in Production Landscapes in Selected Areas of Cuba*** (GEF ID 9435[24]). This concept for this FAO project was approved in October 2016, and the project is currently under preparation. At national level, the project proposed here will be coordinated with the FAO/GEF project through the Coordination Board of the SNAP and the CNAP which is responsible for the SNAP and its constituent protected areas: this coordination is particularly relevant giving that the FAO/GEF project will develop three pilot sites in protected areas, and the present project will work in 15 protected areas of the SNAP. At local level, the projects will be coordinated through the Coordination Board of the Zapata Peninsula Managed Resource Protected Area, led by the Local Organ of Popular Power of Ciénaga de Zapata municipality. This coordination will permit the validation and exchange of experiences regarding productive practices that generate environmental benefits in the agricultural and forestry sectors.

116. It will also be closely coordinated with the following other initiatives:

- **Biodiversity Finance Initiative (BIOFIN).** This initiative is led by UNDP globally and originates as a response to the 10th Conference of Parties (COP-10) of the Convention on Biological Diversity. It was launched in Cuba in February 2017, led by CITMA in association with MEP, MFP, ONEI and BCC, with support from UNDP. It constitutes a work platform that facilitates dialogue between economic, financial, environmental and productive sectors. The objectives of BIOFIN are to: 1) Apply a methodology to calculate financial needs and gaps in the financing of biodiversity at national level, and integrate BD financing in national development plans and diverse sector plans, and 2) develop national strategies for optimizing the use of existing financial resources and mobilize additional resources. BIOFIN will allow the establishment of a framework for the integrated analysis of financing gaps and of strategies for resource mobilization for BD management, through a process of transformation led by national stakeholders.
- In addition, the Project Will promote synergies with the UNDP/Adaptation Fund Project "**Reduction of vulnerability to coastal flooding in the south of the provinces of Artemisa and Mayabeque, through Ecosystem-Based Adaptation (EBA)"**. This initiative will be contributing to economic valuation (Output 3.1 Consolidated information on costs and benefits of EBA available to decision makers and planners. Activity: Economic valuations will be carried out to summarize landscape level costs and benefits of Ecosystem-Based Adaptation.)

[23] https://www.thegef.org/project/capacity-building-sustainable-financing-mechanisms-sustainable-land-management-dry-land

[24] https://www.thegef.org/project/introduction-new-farming-methods-conservation-and-sustainable-use-biodiversity-including

Stakeholder engagement*:*

Stakeholders	Project Implementation Role
Central Government	
Ministry of Science, Technology and the Environment (CITMA)	GEF focal point and environmental sector head. Responsible for directing, executing and controlling environmental policy, furthering its contribution to sustainable development.
National Centre for Protected Areas (CNAP/CITMA)	Project proponent and proposed executing agency: lead entity regarding the planning of Protected Areas in Cuba, with a strong track record and in-house capacity for the implementation of complex projects with large geographical areas of intervention
Institute of Tropical Geography (IGT/CITMA)	Responsible for developing the scientific and technological bases for environmental management and generating integrated solutions that guarantee the sustainable management of natural resources. Responsible for the development and application of environmental spatial planning" (*ordenamiento ambiental*), the application of geographical information systems for the cartographic outputs and the participation in economic valuation of ecosystem services in target localities.
Centre for Environmental Inspection and Control (CICA/CITMA)	Responsible for environmental control and processes of approval of Environmental Impact Assessments and environmental licenses
National Aquarium of Cuba (ANC/CITMA)	Responsible for the monitoring of marine ecosystem in the project's intervention sites along with the Center of Marine Research (CIM). Will also work in research studies related to ecosystem services in coastal and marine areas, in order to identify the project's baseline. It will also propose biophysical indicators for the project's marine ecosystems in the intervention sites.
Institute of Ecology and Systematic (IES/CITMA)	Will participate in the elaboration and implementation of the methodology for ecosystem characterization, forest degradation and ecosystem services economic valuation, throughout different thematic studies.
Institute of Meteorology (INSMET/CITMA)	Responsible for introduction in methodologies, studies and policy response measures, of the climatic approaches, with special interest in climate change and extreme weather events impacts on ecosystem services. Will develop a particular study about the drought effects on productive landscapes in the northern region of Las Tunas province.
Environment Units. Provincial Delegations of CITMA.	Control and supervision of environmental management in the provinces. Methodological control, coordination and supervision of provincial protected area systems.
Ministry of Agriculture (MINAG) and its provincial delegations.	Organism responsible for directing, executing and controlling State and Government policy in relation to the use, conservation and improvement of soils, the conservation, management, rational use of the forest estate and the conservation of wild fauna and flora.
Directorate of Forestry, Flora and Wildlife and offices of Forestry Services at provincial and municipal levels (MINAG) (DFFFS/MINAG)	Responsible for ensuring compliance with the Forestry Law (#85) and its regulations, ensure the appropriate use of FONADEF, approve projects submitted to FONADEF for the forestry estate and wildlife and carry out certifications of resource holders in forests and protected areas.
Provincial and municipal State Forest Service (SEF /MINAG)	Promotion of the sustainable use of forest resources and the conservation of ecosystems and biodiversity, and for overall oversight and administration of FONADEF. Responsible for certifications for FONADEF.
Agroforestry Group (GAF/MINAG)	Responsible for the implementation of activities related to SFM in forestry polygons; will certify forestry practices in the intervention areas of the project.
Institute of Agroforestry Research (INAF/MINAG)	Responsible for developing the capacities of all the personnel of forestry polygons and protected areas in issues related to sustainable forest management, tools for carbon calculations, and for the development and application of the methodology for assessing forest degradation. Proposal of technical options for SFM in forest areas.
Department of Soils and	Responsible for developing in the country the concept of SLM, through the creation of

Stakeholders	Project Implementation Role
Fertilizers and provincial and municipal representatives (DSF/MINAG)	forestry, water and soil polygons, and for controlling the funds of the PNMCS, as well as certifying the projects of the PNMCS at site level.
Institute of Soils and its provincial laboratories (IS/MINAG)	Responsible for monitoring the state of soil in agroecosystems, as well as carrying out soil diagnoses in the polygons and the laboratory analysis of samples, and proposing technical options for SLM.
Ministry of Economy and Planning (MEP)	Responsible for directing, executing and controlling the application of policies related to economy, planning, statistics, normalization, quality control of communal services, physical planning and industrial design; therefore a key actor in the application of the results of economic valuation in planning and decision making.
Ministry of Finance and Prices (MFP)	Responsible for defining budgetary assignations and economic/financial instruments with implications for sector development and natural resource management, and therefore a key target institution for the results of economic valuation of ecosystem goods and services.
Central Bank of Cuba (BCC)	Responsible for the oversight of financial and economic management and therefore a target for information on the economic value of ecosystem goods and services.
Ministry of Tourism (MINTUR)	Responsible for overseeing and promoting tourism development, and therefore a key actor for the mainstreaming of considerations of environmental sustainability, inter-sector impacts, and the results of economic valuation of ecosystem goods and services into sector development.
Ministry of the Food Industry (MINAL)	Responsible for overseeing food production, including fisheries, and therefore a key actor for the mainstreaming of considerations of environmental sustainability, inter-sector impacts, and the results of economic valuation of ecosystem goods and services into food production activities.
Centre of Fisheries Research (CIP/MINAL)	Responsible for the development of studies of fisheries dynamics on intervention sites and therefore of bioeconomic models, that will complement the baseline of the project's marine ecosystems. It will also provide policy recommendations regarding fishing regulations that include the economic value of ecosystem services. It will also propose biophysical indicators for the project's marine ecosystems in the intervention sites.
Enterprises Group of the Food Industry (GEIA/MINAL)	Responsible for implementing sustainable economic alternatives in the fisheries enterprises that promotes environmental benefits.
Ministry of Higher Education (MES)	Will be responsible for delivering awareness-raising and technical training programs regarding economic valuation of ecosystem goods and services, and the incorporation of the results into planning and decision-making.
Centre of Marine Research (CIM/UH)	Responsible for the monitoring of marine ecosystem in the project's intervention sites along with the Cuban National Aquarium. Will also work in research studies related to ecosystem services in coastal and marine areas, in order to identify the project's baseline, including carbon capture by seagrass. It might also accompany the Center of Fisheries Research (CIP) in studies of bioeconomic models on intervention sites. It will accompany the methodological work in different working groups.
Faculty of Economics / University of Havana (FEC/UH)	Responsible for leading training programs and the methodology of Target Scenarios Analysis (TSA) design and implementation, along with other scientific and educational institutions. Will also participate in economic valuation of ecosystem services studies, as well as economic and financial instruments studies and analysis regarding the environmental accounts situation at the national level.
Ministry of Energy and Mines (MINEM)	Responsible for overseeing and promoting hydrocarbon exploitation, and therefore a key actor for the mainstreaming of considerations of environmental sustainability, inter-sector impacts, and the results of economic valuation of ecosystem goods and services into sector development.
National Office of Statistics	Will play a key role in managing the results of information on economic valuation of

Stakeholders	Project Implementation Role
and Information (ONEI)	ecosystem goods and services, and for ensuring access to this information among decision-makers and planners in other institutions.
Institute of Physical Planning (IPF)	Responsible for methodological and procedural orientation and oversight of spatial planning (*ordenamiento territorial*), and therefore a key actor in supporting the incorporation of the results of economic valuation into planning procedures.
National Institute of Hydrological Resources (INRH)	Responsible, in coordination with other entities, for the protection of water resources watersheds, waterways and water infrastructure against the risks of pollution and degradation, as well as the systematic control of water quality. Its decision-making and planning regarding the management of water resources and watersheds will take into account the results of economic valuation of ecosystem goods and services.
Minister of Education (MINED)	Will participate in designing training programs aimed at the secondary level of education, which will aloud to spread the approaches of economic value of ecosystem services implications for decision-making into educational policy at a different level.
Forest Guard Corps of the Ministry of the Interior (CGB/MININT)	Responsible for oversight and control of natural resources, as well as campaigns against forest fires.
Local government	
Representatives of local government (Local Organisms of Popular Power: Councils of Municipal Administration; Popular Councils)	Control and administer resources at local level: will play a vital role in the definition of priorities for local development and the validation of proposals of natural resource management strategies within their areas of jurisdiction.
Civil Society Organizations	
National Association of Small Farmers (ANAP)	Represents small farmers: will participate in the definition of the productive options to be promoted and will act as a channel for extension messages to small farmers.
ACTAF (Cuban Association of Agricultural and Forestry Technicians)	Will serve as a channel for raising awareness and knowledge among agricultural and forestry technicians regarding the valuation of ecosystem goods and services, and for the formulation of strategies for incorporating these issues into extension messages.
ACPA (Cuban Association of Animals Productions)	Will serve as a channel for raising awareness and knowledge among livestock technicians regarding the valuation of ecosystem goods and services, and for the formulation of strategies for incorporating these issues into extension messages
ANEC (National Association of Economists of Cuba)	Will serve as a think-tank/platform for the generation and discussion of methodological issues related to economic valuation.
Federation of Cuban Women	Active at all levels; will be consulted regarding strategies for maximizing women's participation in the project and its benefits, and will serve as a channel for the representation of the needs and interests of women.

Mainstreaming gender:

117. During the PPG phase an analysis was carried out of how the project would address gender issues during its implementation. Gender issues will be addressed within a context of already high levels of equity in women's participation in decision-making, the control of factors of production and the enjoyment of benefits from production processes: women make up 66% of the professionals and technicians in the country and 53.5% in the system of Science, Innovation and Technology, and in general the policy and regulatory framework is favourable for women's empowerment, as shown for example in the specific gender strategy that has been developed for the country's agricultural sector. In support of the implementation of this strategy, the Ministry of Agriculture has established Branch Technical Norm 300:2014 "Gender: Terms and Definitions").

118. This project will generate further benefits for women, by helping to stabilize ecological and social processes at landscape level, and promoting the generation of economic benefits through sustainable production systems, which will in turn help to consolidate and stabilize the structures and internal dynamics of natural resource-dependent farm families, as well as generating specific income and employment opportunities for women. The

project will also take advantage of and contribute to the well-established provisions for women's participation in decision-making structures at the levels of community and local government.

119. The detailed gender strategy will be validated during the inception phase of the project, to ensure that a gender focus is applied in a cross-cutting manner in all project activities and indicators; this will be linked to and harmonized with the existing gender strategies of the ANAP and each of the target economic sectors. Strategies to be adopted, to promote gender equity in decision-making, management and in the distribution of economic and empowerment benefits, include the following (more detailed Output-specific strategies are presented in Annex M):

- Development of personnel capacities: while there is already a very high level of female representation in technical and strategic posts, the project will ensure that women are specifically targeted by capacity development activities.
- In selecting the management systems to be promoted under Component 3, aimed at generating and safeguarding ecosystem goods and services, attention will be paid in particular in participatory analyses of their gender implications (avoiding the marginalization of women, and where possible actively favouring their economic and social status through opening up opportunities for them to control the management of natural resources and to generate and control income). Appropriate tourism has particular potential in this regard.
- The awareness–raising, environmental education and communication to be supported through the project will include recognition of the differentiated roles of men and women in relation to natural resource management, and the differentiated implications of natural resource degradation for them.
- The mechanisms for planning, negotiation and local participation through which the project will work in order to ensure that the interests of different stakeholders are taken into account in an informed manner (using the results of ecosystem valuation) will consider the differentiated interests and conditions of men and women, in order to optimize gender equity in the resulting decisions.
- Indicators, both project-specific ones and those that will be incorporated into environmental monitoring systems to be promoted through the project, will where possible and appropriate be gender-sensitive, especially in terms of potential differentiated impacts on women's economic status and levels of empowerment and participation.

South-South and Triangular Cooperation

120. South-south cooperation will take the form of interchanges of lessons learned and experiences generated through the project, with other countries in the Latin America and Caribbean region and, where possible and appropriate, beyond. These will be particularly important given the innovative nature of the project in terms of concepts and methodologies for economic valuation and the incorporation of its results in decision making. UNDP will play an important role in facilitating these interchanges, taking advantage of its global network of country offices, and links will also be developed with sister agencies in the UN system and beyond for further such exchanges.

V. FEASIBILITY

Cost efficiency and effectiveness:

121. Central to the project is the goal of optimization of the efficiency and effectiveness of investments in natural resource management, by making information on the economic costs and benefits of alternative courses of action available to decision-makers. This will help to ensure that the nature and magnitudes of investments are commensurate with the values of the ecosystems in question and with the goods and services that they provide. In this regard the project will complement and share experiences and methodologies with project 9301 "Capacity Building for Sustainable Financing Mechanisms/Sustainable Land Management in Dry land Forest Ecosystems and Cattle Ranching Areas".

122. In common with project 9301 and other projects in the GEF portfolio in Cuba, especially those within the Country Pilot Partnership Programme on Sustainable Land Management as well as those focused on BD mainstreaming in production landscapes (such as project 4846 "A Landscape Approach to the Conservation of Threatened Mountain Ecosystems" and 2633 "Mainstreaming and Sustaining Biodiversity Conservation in Three Productive Sectors of the Sabana Camaguey Ecosystem"), the cost-effectiveness of the project will be furthered by its emphasis on low input, low cost technologies. Given the geopolitical and economic situation of recent years, Cuba has ample experience in devising innovative, low-cost solutions to its problems (for example, through the massive production of organic fertilizer based on urban, industrial and agricultural wastes as a substitute for imported inorganic fertilizer) and in maintaining and adapting equipment in order to obtain the maximum of use with the minimum of investment. These abilities will help to ensure that the maximum of impact is achieved with relatively limited GEF investment.

123. The actions of the BIOFIN initiative will also contribute to the effectiveness of the project, by favouring dialogue between economic, financial, environmental and productive sectors.

Risk Management:

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
Policy makers give greater priority to the generation of short term financial and productivity considerations than to considerations of sustainability and inter-sector impacts	Political	**Impact** = 3: target ecosystems may be negatively affected but the tools to be generated by the project will minimize net implications **Probability** = 3: policy makers increasingly recognize the importance of sustainability issues	The project will develop tools and capacities aimed to support the decision makers to weigh up the net implications of different sector development scenarios. The project will develop technical capacity which will provide technical options to actors in the economic sectors reducing or offsetting their impacts.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing
National budget constraints reduce the availability of incentives for management practices that generate or safeguard ecosystem goods and services	Financial	**Impact** = 3: uptake of practices by resource managers will also be motivated by considerations of productivity and sustainability, rather than solely incentives **Probability** = 3:	The project will promote capacity building on ecosystem goods and services to increase the understanding of its importance to the social and economic development, and will also propose viable financing options for the sustainable management and conservation of	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
		income from tourism may be affected by climatic or external geopolitical factors	ecosystems and their services.		
Climate change and extreme weather events result in degradation of ecosystems and their ability to generate ecosystem goods and services.	Environmental	**Impact** = 3: the management practices to be promoted will take into account climate change resilience **Probability** = 5: no doubt that target ecosystems will be affected by climate change	Valuation of ecosystem goods and services and awareness raising will result in increased investment in the restoration of ecosystems and the recovery of their resilience and their capacities to generate ecosystem goods and services. Other methodological tools might be developed by the project in order to reduce the ecosystems vulnerability to climate change and extreme weather events.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Increasing
Institutional changes in the context of the process of updating the economic and social model in Cuba generate modifications in the key stakeholders of the Project and their respective responsibilities.	Operational	**Impact** = 3: changes in the structure and responsibilities of the key Project stakeholders may generate changes in the role they play in Project implementation **Probability** = 3:	Systematic monitoring of the institutional situation and timely adjustments to roles in Project coordination and implementation.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing
Delay in the processes of implementation of the Project due to delays in imports.	Operational	**Impact** = 3: delays in procurement processes associated with imports may delay the validation of production processes **Probability** = 2, if adequate organizational measures are not adopted	Timely Identification of bottlenecks associated with import processes. Define and implement actions to speed up the import process (shipment) jointly with the actors involved in the process.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing
Risks identified in the Social and Environmental Screening (SESP) (Annex XIII F)					
1.2 Project activities are proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or	Environmental	**Impact** = 1: the activities proposed in PAs are all compatible with the maintenance of environmental values **Probability** = 5	Project activities in or in the vicinity of protected areas will be formulated and implemented in close coordination with the PA authorities (the National Centre for Protected Areas is the lead entity of this project), and in strict accordance with the	The National Project Director will monitor the risk. UNDP will provide support and supervision.	

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
indigenous peoples or local communities			provisions of the management plans in each case.		
1.6 The Project will involve reforestation		**Impact**: 1 **Probability**: 5	Reforestation activities will pose minimal environmental risk given that they will be located in such a way as to avoid displacing natural ecosystems, and will involve native non-invasive species, following at all times the technical guidelines developed by the Forest Service. Planting and management will be overseen, and tree development monitored, by the Forest Service		
1.7 The Project will involve the harvesting of fish populations		Impact: 1 Probability: 5	Project actions and management practices will build on and learn from the experiences of GEF project Integrated Coastal Zone Management in the Southern Archipelago of Cuba. Management measures will include use of appropriate gear, definition of and adherence to closed seasons and quotas, and definition of temporary or permanent no-take zones to permit reproduction and grow-on.		
Sensitivity or vulnerability to impacts of climate change and extreme climatic conditions (SESP risks 2.2 and 3.5)	See above				

Social and environmental safeguards:

124. The overall risk rating of the project is Low, given that concerns are only raised in relation to three of the issues in the risk screening checklist, and in all three cases the significance rating is Low given the low potential impacts of the activities proposed, even without mitigation measures:

- 1.2: Some of the project's activities in each of the target localities will be carried out in or in the vicinity of protected areas. In general, the activities of the project will have positive rather than negative implications for the PAs in question, by promoting the sustainability of the productive, extractive and service sector activities that currently affect the PAs, and by increasing the habitat and connectivity value of the landscapes surrounding the PAs. Project activities in or in the vicinity of PAs will be formulated and implemented in close coordination with the PA authorities (the National Centre for Protected Areas is the lead entity of this project), and in strict accordance with the provisions of the management plans in each case.

- 1.6 The project will support reforestation in the production units targeted for SLM activities ("SLM polygons"), in order to generate SLM and SFM benefits in the form of watershed protection and carbon capture. The potential environental risk will further be minimised by locating reforestation activites in such a way as to avoid displacing natural ecosystems, and using native non-invasive species, following at all times the technical guidelines developed by the Forest Service. Planting and management will be overseen, and tree development monitored, by the Forest Service.
- 1.7 The project will involve the harvesting of fish populations: it will not however directly participate in or promote fish harvesting, but will instead support the mainstreaming of considerations of environmental and productive sustainability into the harvesting of wild (marine) fish stocks. Project actions in this regard, and the management practices to be recommended, will build on and learn from the experiences of the earlier GEF project supporting Integrated Coastal Zone Management in the Southern Archipelago of Cuba. Management measures to avoid negative impacts will include the use of appropriate gear, the definition of and adherence to closed seasons and quotas, and the definition of temporary or permanent no-take zones to permit reproduction and grow-on.
- 2.2 The activities and impacts of the project in the target localities, with the promotion of resource management practices to optimize flows of environmental goods and services, may be affected by phenomena related to global climate change, such as increased frequency and/or severity of hurricanes, tropical storms and droughts: while these may negatively affect the target production systems and delay results, this will not have negative impacts on the target communities relative to the baseline scenario.
- 3.5 The activities and impacts of the project in the target localities may be affected by extreme climatic conditions (hurricanes, tropical storms or droughts): while these may negatively affect the target production systems and delay results, this will not have negative impacts on the target communities relative to the baseline scenario.

Sustainability and Scaling Up:

125. The sustainability of the project's impacts will be ensured through its focus on capacity development, particularly in relation to capacities for the generation, management and use of information by well-established State institutions, and for the development and application of resource management practices by State enterprises, private investors and individual producers. This capacity development will be backed up and institutionalised through the development of regulatory instruments and methodological tools, in order to limit effects on sustainability of possible staff changes.

VI. PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s):

- 2: Zero Hunger
- 5: Gender Equality
- 8: Decent Work and Economic Growth
- 13: Climate Action
- 14: Life below Water
- 15: Life on Land
- 17: Partnerships for the Goals

This project will contribute to the following country outcome included in the UNDAF/Country Programme Document: Productive and services sectors strengthen the integration of environmental considerations, including energy and adaptation to climate change, into their development plans.

This project will be linked to the following output of the UNDP Strategic Plan:

Output 1.3: Solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystem services, chemicals and waste.

Vertical logic	Indicator	Baseline value	Mid-term Target	Target value	Assumptions
Objective: To promote the generation of multiple environmental benefits based on integrated economic valuation of ecosystem goods and services, as a tool for decision making at different levels.	O1. Production landscapes managed to favour BD as a result of the promotion of sustainable resource management practices, improved protection of ecosystems and the incorporation of the results of economic valuations of ecosystem goods and services into instruments for environmental planning and management (BD indicator)	Planning and management instruments over the target areas do not specifically provide for consideration of the economic values ot ecosystem goods and services	Municipal and provincial governments in the target areas are in process of incorporating provisions for the consideration of the economic value of ecosystem goods and services in instruments for environmental planning and management	Total area of target landscapes, subject to improved overall landscape management to favour connectivity, habitats and the reduction of threats and drivers affecting BD: **1,703,716ha**, as measured by the incorporation of the results of economic valuations of ecosystem goods and services into instruments for environmental planning and management.	The target areas are not affected by extreme natural phenomena during the project period. Economic conditions determining the funding of economic instruments and the economic viability of production and resource management systems remain favourable. The policy environment remains supportive of the application of economic instruments based on the results of economic valuation of ecosystem goods and services.
	O2. Level of application of production practices that optimise flows of ecosystem goods and services, in pilot localities (SLM	Target production systems are subject to inadequate agricultural, grazing and forestry management practices (without adequate	Resource managers responsible for the management of **1,703.43 ha** are taking active measures to improve their production systems to optimize flows of ecosystem goods and services	**1,703.43 ha** of production systems in 10 SLM polygons in Pinar del Río, Matanzas, Villa Clara, Las Tunas and Holguin are under SLM practices that optimise flows of ecosystem goods and services: ▪ 1,218.04ha of agriculture	

Vertical logic	Indicator	Baseline value	Mid-term Target	Target value	Assumptions
	indicator)	provision for promoting flows of environmental goods and services)		(including food crop, tree crop, and crop-livestock) ▪ 216.54ha of rangeland ▪ 231.89ha of pasture land ▪ 26.04ha of forests ▪ 10.92ha of mixed systems	
	O3. Area of high conservation value forests with improved protection/management (SFM indicator)	Target forests are subject to degradation from inadequate application of management practices and illicit extraction of forest products	▪ 134,000ha of forests in protected areas, with improved protection	▪ **329,509.34ha** of mangroves, swamp forests, pine forests, deciduous forests, semideciduous forests and evergreen forests in protected areas, with improved protection	
	O4. Net reduction in CO_2 emissions (SFM indicator)			▪ **2,885,699tCO_{2eq}**	
Component 1: Favourable legal, institutional and policy frameworks in key sectors for the generation of global environmental benefits (BD, LD, SFM) ▪ **-** Policies, strategies, plans and regulations concerning national issues and the development of key target sectors with particular implications for global environmental values take into account the results of economic evaluations of their environmental implications of relevance to BD, LD and/or SFM; ▪ Financial instruments support the optimisation at local and regional levels of flows of ecosystem goods and services (of relevance to BD, LD and/or SFM) associated with the activities in the target sectors, based on the results of economic valuations ▪ Strengthened human and institutional capacities for the incorporation of economic valuation of ecosystem goods and	1.1 Number of policy, planning and strategy documents, regulatory instruments and economic and financial instruments with implications for the directions, priorities, nature, locations and environmental implications of the target sectors, that take into account the results of economic valuations	The value of ecosystem goods and services are not currently reflected in a consistent manner in documents and instruments	Proposals generated for the incorporation of the results of economic valuations into at least 6 policy, planning and strategy documents, 5 regulatory instruments and 3 economic and financial instruments	At least ▪ 6 policy, planning and strategy documents ▪ 5 regulatory instruments ▪ 3 economic and financial instruments.	Economic conditions determining the funding of economic instruments remain favourable. The policy environment remains supportive of the application of economic instruments based on the results of economic valuation of ecosystem goods and services.
	1.2 Levels of human and institutional capacities strengthened for the incorporation of economic valuation of ecosystem goods and services in the institutions covering the target sectors	▪ No specific training has been delivered on the incorporation of the results of economic valuation of ecosystem goods and services ▪ No methodological proposals have been developed	▪ 25% of the members of target institutions and stakeholders have received training ▪ Methodological proposals are under development	▪ 50% of the members of the national institutions and key project stakeholders (of whom at least 50% are women) have increased capacities for the incorporation of the results of economic valuation of ecosystem goods and services (methodology for assessment of the effectiveness of capacity	

Vertical logic	Indicator	Baseline value	Mid-term Target	Target value	Assumptions
services in the institutions covering the target sectors				development to be confirmed at project start-up). ▪ Methodological proposals providing for the incorporation of the results of economic valuation in decision making have been technically approved in 50% of the institutional stakeholders of the project.	
	1.3. Effectiveness of the application of landscape planning and management processes based on the results of the economic valuation of ecosystem goods and services (see explanation in table following the Strategic Results Framework)	Planning = 0 Participation = 0 Communication = 0 Integration = 3 Responsibility = 0 Balance =0 ▪ *(to be confirmed at project start)*	Planning = 3 Participation = 3 Communication = 3 Integration = 5 Responsibility = 3 Balance =3	Planning = 5 Participation = 5 Communication = 5 Integration = 7 Responsibility = 5 Balance =5	
Outputs: 1.1 Proposals for inclusion of economic valuation results into policies, strategies, plans and regulations 1.2 Strengthened inter-sector platforms for the negotation of environmental issues 1.3 Strengthened entities for the analysis of policy implications of the results of valuations of ecosystem goods and services 1.4 Proposals of methodological protocols and/or legal instruments for the incorporation of ecosystem valuation into key processes and procedures 1.5 Strategies and programmes for training on incorporation of economic valuation into decision making					
Component 2: Targeted scenario analysis guiding decision-makers on the implications of different courses of action in the target sectors that could affect natural resources and global environmental values: ▪ Decision-makers have access to useful and relevant information on the environmental implications of different courses of actions, allowing policy formulation and decision-making that optimises the generation of global environmental benefits in the	2.1 Level of access of decision-makers to useful and relevant information on the environmental implications of different courses of action, based on the results of economic valuations, allowing policy formulation and decision making that optimizes the generation of environmental	Reliable, useful and consistent Information based on the results of economic valuations, is not available to decision makers	Agreements reached with MEF, MFP, MINAGRI, MINTUR, MES, MINAL, MINEM, CITMA, ONEI, IPF, INRH, BCC and OLPP regarding arrangements for ensuring the effective flow of information based on the results of economic valuations,.	Information on the environmental implications of different courses of action, based on the results of economic valuations, flowing effectively to MEF, MFP, MINAGRI, MINTUR, MES, MINAL, MINEM, CITMA, ONEI, IPF, INRH, BCC and OLPP, including at least 6 results of targeted scenario analysis studies	The policy environment remains supportive of the application of economic instruments based on the results of economic valuation of ecosystem goods and services.

Vertical logic	Indicator	Baseline value	Mid-term Target	Target value	Assumptions
target sectors	benefits				
	2.2 Number of target actors with awareness of and access to methodological tools for taking decisions on the basis of TSA that incorporates economic valuation of ecosystem goods and services	Target institutions lack awareness of and access to methodological tools for incorporating the results of of TSA	Methodological tools are under development and agreements reached with target institutions regarding their design and use.	At least 6 target institutional actors have awareness of and access to methodological tools for incorporating the results of TSA based on the economic valuation of ecosystem goods and services into decision-making with implications for global environmental benefits (BD, SLM and/or SFM)	
Outputs 2.1 Mechanisms for the management of and access to information 2.2 Methodological tools in support of Targeted Scenario Analysis (TSA) 2.3 Results of economic valuations to address priority issues and threats in the target sectors 2.4 Communication mechanisms and awareness raising materials					
Component 3: Pilot experiencies generating, validating and demonstrating mechanisms for the optimization and internalization of values of ecosystem goods and services in the target sectors and associated landscapes ▪ Decisions with environmental implications are taken in an informed and consensus-based manner in the target localities and sectors, taking into account the valuation of ecosystem goods and services and the results of TSA ▪ Financial incentive schemes oriented by the results of economic valuations ▪ Production systems and conservation areas in target localities with improved management and protection to favour the generation of multiple global environmental benefits	3.1 Degree to which the results of valuations of ecosystem goods and services, and TSA, are reflected in decisions with environmental implications	Processes for Environmental Impact Assessment, municipal and provincial planning, management planning of SLM polygons and PA management do not specifically provide for the reflection of the economic value of ecosystem goods and services	Methodologies developed for the incorporation of provisions for reflection of the economic value of ecosystem goods and services in processes for Environmental Impact Assessment, municipal and provincial planning, management planning of SLM polygons and PA management in the target localities	Decisions with environmental implications are taken in an informed and consensus-based manner in the target localities and sectors, taking into account the valuation of ecosystem goods and services and the results of TSA, through improvements to processes for: ▪ At least ***4 new Environmental Impact Assessment studies*** of sector development initiatives will receive the technical support of the project to apply methodologies that include provisions for reflection of the economic value of ecosystem goods and services ▪ 17 municipal plans covering **1,494,875ha** ▪ 10 management programmes for demonstration areas (SLM polygons) covering **1,703.43ha**, where SLM practices are prioritized in agricultural production	The target areas are not affected by extreme natural phenomena during the project period. Economic conditions determining the economic viability of production and resource management systems remain favourable.

Vertical logic	Indicator	Baseline value	Mid-term Target	Target value	Assumptions
				▪ 15 PA management plans (covering **1,039,093.44ha**) maximizing their effectiveness in tackling sector-based threats	
	3.2 Proportion of financial resources, delivered to producers and resource managers in the target sectors as incentives for the management and restoration of natural resources, that are subject to the optimization of flows of ecosystem goods and services and oriented by the results of economic valuations	Incentives provided by FONADEF and PNMCS are not specifically conditional on the optimization of flows of ecosystem goods and services	Provisions under development for making the provision of economic incentives to resource managers in the target areas conditional on the optimization of flows of ecosystem goods and services	**$1.6 million of financial resources**, from FONADEF and PNMCS, delivered to producers and resource managers in the target sectors as incentives for the management and restoration of natural resources, subject to the optimization of flows of ecosystem goods and services and oriented by the results of economic valuations	
	3.3 Production systems and conservation areas in target localities with improved management and protection to favour the generation of multiple global environmental benefits	Target production systems are subject to inadequate agricultural, grazing and forestry management practices (without adequate provision for promoting flows of environmental goods and services)	▪ **2800ha** of forests subject to improved management in 7 forest polygons ▪ **1,500ha** of reforestation (planted but yet to be certified under national regulations) ▪ **700ha** of agroecosystems in 10 demonstration polygons ▪ **400,000ha** in 15PAs with improved management and protection	▪ **7,000ha** of forests subject to improved management in 7 forest polygons (5 forest enterprises - Guanahacabibes, M. Matahambre, La Palma, Matanzas, Las Tunas - and 2 protected areas) ▪ **3,500ha** of reforestation ▪ **1,703.43ha** of agroecosystems in 10 demonstration polygons ▪ **1,039,093.44ha** in 15 protected areas with improved management and protection	
	3.4 Levels of knowledge and technical capacities among resource managers for the scaling up of	Limited knowledge and technical capacities among resource managers mean that production practices that optimize flows of	Resource managers responsible for managing 100,000ha of agricultural systems have training and capacities	Resource managers responsible for managing **200,000ha** of agricultural systems have training and capacities necessary for the application of production practices that optimize flows of ecosystem goods and	

Vertical logic	Indicator	Baseline value	Mid-term Target	Target value	Assumptions
	production practices that optimize flows of ecosystem goods and services	environmental goods and services are not scaled up		services	
Outputs 3.1 Local level platforms for information exchange and analysis 3.2 Strengthened local mechanisms for negotiation of environmental issues and conflicts 3.3 Pilots of methodological tools for the incorporation of ecosystem valuation into local decision-making mechanisms 3.4 Capacities and systems for environmental monitoring 3.5 Proposals of financial instruments 3.6 Demonstrations of the productive and environmental viability of management practices 3.7 Programmes for development of technical capacities at local level for application of management and restoration options					

Explanation of Objective level indicator on effectiveness of the application of landscape planning and management processes[25]:

Indicator	Scoring guidepost - 0	Scoring guidepost - 3	Scoring guidepost - 7	Scoring guidepost - 10
Planning	Instruments lack clearly defined boundaries; have poorly specified objectives and scope and do not include key issues affecting landscape sustainability. Plans do not including adapting to current or emerging conditions	Boundaries are defined but are not reflective of the existing socio-ecological systems. Some objectives and scope are defined, but they do not include significant issues affecting landscape sustainability. Plans promote adapting to current or emerging conditions through feedbacks and iterative assessment but it rarely happens.	Boundaries are clearly defined but are not fully reflective of the existing socio-ecological systems. Some objectives and scope are defined, and they include some significant issues affecting landscape sustainability. Plans are occasionally improving with feedbacks and iterative assessment to adapt themselves to current and emerging conditions.	Boundaries are clearly defined and fully reflective of existing socio-ecological systems. Objectives and scope are clearly defined, and they include the most significant issues affecting landscape sustainability. Plans are continually improving with feedbacks and iterative assessment to adapt themselves to current and emerging conditions.
Participation	Almost no stakeholder is aware or interested in the processes; when stakeholders participate, they play a passive or reactive role in solutions to address pressures affecting landscape sustainability with the area of influence of the processes; they avoid or never demand transparent participation and evaluation of processes implemented in socio-ecological systems	Some stakeholders are aware of their role and responsibilities in the processes; they rarely play an active or constructive role in solutions to address pressures affecting landscape sustainability with the area of influence of the processes; they rarely promote or demand transparent participation and evaluation of processes implemented in socio-ecological systems	Key stakeholders are aware of their role and responsibilities in the processes; in most cases they play an active and constructive role in solutions to address pressures affecting landscape sustainability with the area of influence of the processes; they occasionally promote or demand transparent participation and evaluation of processes implemented in socio-ecological systems	All stakeholders are aware of their role and responsibilities in the processes; they play an active and constructive role in solutions to address pressures affecting landscape sustainability with the area of influence of the processes; they promote and demand transparent participation and evaluation of processes implemented in socio-ecological systems
Communication	Stakeholders have scarce and	Few stakeholders are aware of	Majority of stakeholders are aware of	All stakeholders are aware of

[25] Botero, C.M. et al. "An indicator framework for assessing progress in land and marine planning in Colombia and Cuba". Ecological Indicators 64 (2016) 181-193.

Indicator	Scoring guidepost - 0	Scoring guidepost - 3	Scoring guidepost - 7	Scoring guidepost - 10
	incomplete information about the processes and socioecological systems; communication techniques are always similar and focus only on informing on decisions made; communication process is clearly one-way.	socioecological systems; communication techniques are similar among them and rarely have educational or awareness raising goals; the processes are rarely acknowledged as two-way, with language incomprehensible to some stakeholders.	socioecological systems; communication techniques are diverse and have some educational and awareness raising goals; the processes are usually acknowledged as two-way, with language comprehensible to the stakeholders being used most of the time.	socioecological systems; communication techniques are diverse and have clear educational and awareness raising goals; the processes is recognised and operated as two-way, with language comprehensible to stakeholders being used all of the time.
Integration	Processes are focused on a sectoral approach, with dominance in one or two disciplines; sector management units are unbalanced in decision-making; solutions are proposed from a sectoral perspective, avoiding systems analysis and recognition of landscape complexity within the area of influence.	Processes have some multi-sectoral or multi-level coordination actions; few disciplines have clear opportunities to influence decision-making and sector management units are unbalanced in decision-making; solutions are very rarely proposed from an integrated or interdiscipilinary way, with little awareness of landscape complexity within the area of influence.	Processes have multi-sectoral or multi-level coordination, but rarely both; few disciplines have clear opportunities to influence decision-making and sector management units are unbalanced in decision-making; solutions are very rarely proposed from an integrated or interdiscipilinary way, with little awareness of landscape complexity within the area of influence.	Processes have multi-sectoral and multi-level coordination; there is a clear equality of opportunities in the decision-making to different disciplines and sectoral management units; solutions are rarely proposed from an integrated and interdiscipilinary way, based on systems analysis of landscape complexity within the area of influence.
Responsibility	Processes have no legal basis in the target landscapes; risk assessment of decisions is non-existent; socioecological landscape systems in processes are not regulated; process organizations do not address stewardship and resource efficiency.	Processes have insufficient legal basis in the target landscapes, carrying out superficial risk assessments of few decisions; few socioecological landscape systems in processes are regulated; process organizations are indifferent to stewardship and resource efficiency.	The legal basis for the processes includes several aspects of the target landscapes, with occasional risk assessments of decisions; most socioecological landscape systems in processes are regulated; process organizations promote stewardship and resource efficiency.	The processes have a clear legal basis, show evidence of carrying out risk assessments of decisions; most socioecological landscape systems in processes are regulated effectively; process organizations have stewardship and resource efficiency as core criteria.
Balance	Processes occur without taking into account “social fairness”; environmental quality is assessed only from an ecological perspective, and analyses of costs and benefits are non-existent; stakeholders involved in the processes do not perceive the trade-offs stemming from management decisions.	Processes occasionally take into account “social fairness”; environmental quality assessments rarely include economic perspective; if conducted, analyses of costs and benefits are focused on only one perspective (economic, social or environmental); few stakeholders involved in the processes perceive the trade-offs stemming from integrated management decisions.	Processes take into account “social fairness” in most decisions; decision-making enhances environmental quality with regard to its impacts on employment and income; processes consider the consequent costs and benefits for socioecological systems, and stakeholders involved in the processes perceive the trade-offs stemming from integrated management decisions.	Processes have a commitment to take into account “social fairness”; decision-making protects and enhances optimum environmental quality with regard to its impacts on employment and income; processes consider and negotiate the consequent costs and benefits for socioecological systems, and stakeholders involved in the processes perceive and understand the trade-offs stemming from integrated management decisions.

VII. MONITORING AND EVALUATION (M&E) PLAN

126. The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. *The project monitoring and evaluation plan, supported by the knowledge management activities provided for under the Project Management budget, will also facilitate learning and ensure knowledge is shared and widely disseminated to support the scaling up and replication of project results.*

127. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the GEF M&E policy and other relevant GEF policies[26].

128. In addition to these mandatory UNDP and GEF 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. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.[27]

M&E Oversight and monitoring responsibilities:

129. Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

130. The Project Manager will develop annual work plans based on the multi-year work plan included in Annex A, including annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc..) occur on a regular basis.

131. Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

132. Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. 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 by and generated by the project supports national systems.

[26] See https://www.thegef.org/gef/policies_guidelines
[27] See https://www.thegef.org/gef/gef_agencies

133. UNDP Country Office: The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR, the *independent mid-term review* and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

134. The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

135. The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

136. UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.

137. Audit: The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.[28]

Additional GEF monitoring and reporting requirements:

138. Inception Workshop and Report: A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
c) Review the results framework and finalize the indicators, means of verification 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 GEF OFP in M&E;
e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; knowledge management provisions, and other relevant strategies;
f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
g) Plan and schedule Project Board meetings and finalize the first year annual work plan.

139. The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

140. GEF Project Implementation Report (PIR): The Project Manager, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current 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 of the PIR

[28] See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

141. The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

142. Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

143. GEF Focal Area Tracking Tools: The following GEF Tracking Tool(s) will be used to monitor global environmental benefit results: BD, LD and SFM, as agreed with the UNDP-GEF Regional Technical Advisor. The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted as Annex D to this project document – will be updated by the Project Manager/Team (not the evaluation consultants hired to undertake the MTR or the TE) (indicate other project partner, if agreed) and shared with the mid-term review consultants and terminal evaluation consultants before the required review/evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

144. Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3rd PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

145. Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP Independent Evaluation Office (IEO) for GEF-financed projects available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publically available in English on the UNDP ERC.

146. The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake

a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

147. Final Report: The project's terminal PIR 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.

Mandatory GEF M&E Requirements and M&E Budget:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[29] (US$)		Time frame
		GEF grant	Co-financing	
Inception Workshop	UNDP Country Office	USD 15,000	*add*	Within two months of project document signature
Inception Report	Project Manager	None	USD 19,200	Within two weeks of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	None	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager	None	USD 40,000	Annually
GEF Project Implementation Report (PIR)	Project Manager and UNDP Country Office and UNDP-GEF team	None	USD 40,562	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	USD 41,000 - per 6 years	*Add*	Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Manager	*USD 83,040*	USD 36,000	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager UNDP CO	*None*	USD 32,000	On-going
Addressing environmental and social grievances	Project Manager UNDP Country Office BPPS as needed	*None for time of project manager, and UNDP CO*	USD 28,800	*Costs associated with missions, workshops, BPPS expertise etc. can be charged to the project budget.*
Project Board meetings	Project Board UNDP Country Office Project Manager	*USD 3,000*	USD 28,000	At minimum annually
Supervision missions	UNDP Country Office	None[30]	*add*	Annually
Oversight missions	UNDP-GEF team	None[30]	*add*	Troubleshooting as needed
Knowledge management as provided for in the Project Management budget	*Project Manager*	*USD 95,804 1% of GEF grant*	USD 27,000	*On-going*
GEF Secretariat learning missions/site visits	UNDP Country Office and Project Manager and UNDP-GEF team	None	*add*	To be determined.
Mid-term GEF Tracking Tool to be updated	*Project Manager*	*None*	USD 35,000	*Before mid-term review mission takes place.*
Independent Mid-term Review	*UNDP Country Office*	*USD 40,000*	*add*	*Between 2nd and 3rd PIR.*

[29] Excluding project team staff time and UNDP staff time and travel expenses.

[30] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[29] (US$)		Time frame
		GEF grant	Co-financing	
(MTR) and management response	*and Project team and UNDP-GEF team*			
Terminal GEF Tracking Tool to be updated	Project Manager	None	USD 38,000	Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	USD 40,000	*add*	At least three months before operational closure
Translation of MTR and TE reports into English	*UNDP Country Office*	*USD 8,000*	*add*	*As required. GEF will only accept reports in English.*
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		*USD 325,844*	*USD 324,562*	

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

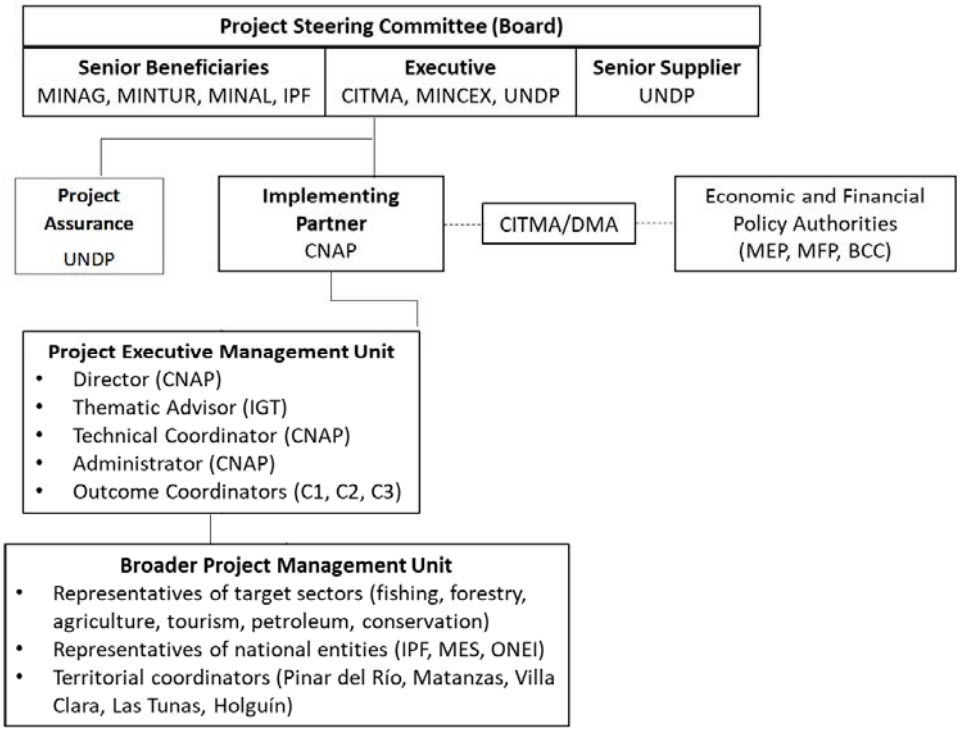
148. Roles and responsibilities of the project's governance mechanism: The Ministry for Foreign Trade and Foreign Investment (**MINCEX**) is the national public authority in charge of coordinating international cooperation in Cuba. In keeping with GEF procedures, **UNDP** will be the implementing agency (**I**A) for the project. The project will be implemented following UNDP's national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of Cuba, and the Country Programme. UNDP will be responsible for project oversight, including the achievement of project results, financial execution and the submission of reports according to UNDP and GEF requirements.

149. The **Implementing Partner** for this project is the National Centre for Protected Areas (CNAP) of the Ministry of Science, Technology and Environment (CITMA). The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.

150.The Implementing Partner is responsible for:

- Approving and signing the Multi Year Work Plan;
- Approving and signing the Combined Delivery Report (CDR), this report is prepared every three months and at the end of each year; and,
- Signing of the financial report or authorization of funds and the certificate of expenses (Funding Authorization and Certificate of Expenditures-FACE).

Figure 8. Project organisation structure



151. The Project Steering Committee (Project Board): The project implementation will be carried out under the general guidance of a Project Steering Committee, specifically formed for this purpose. The composition, responsibilities and rules of operation of the Steering Committee will be confirmed during its first meeting. Subject to the decision of this meeting, it is proposed that the Steering Committee will be responsible for approving the operational plans and annual reports of the project as well as the terms of reference and appointments of key

members of staff, and will be composed of representatives of MINCEX, CITMA, UNDP, MINAG, MINAL, MINTUR and IPF. The Project Steering Committee will meet at least once per year and in addition could be convened extraordinarily on the request of individual members. National policy authorities such as the Ministry of Economy and Planning (MEP), the Ministry of Finance and Prices (MFP) and the Central Bank of Cuba (BCC) will be permanently invited by the National Steering Committee taking into account the competence of this national institutions on economic and financial issues that the project will deal with during its implementation period. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager.

152. The Project Steering Committee will be responsible for making executive decisions for the project and provide guidance. The Project Steering Committee will play a critical role in facilitating inter-ministerial coordination, project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning.

153. It will ensure that required resources are committed and will arbitrate on any conflicts within the project or negotiate a solution to any problems with external bodies. In addition, it will approve the appointment and responsibilities of the Project Manager and any delegation of its Project Assurance responsibilities. Based on the approved Annual Work Plan, the Project Steering Committee will also consider and approve the quarterly plans and will also approve any essential deviations from the original plans.

154. The Project Steering Committee will consist of the following members:

1) The **Executive**, who will chair the Steering Committee. This role will be shared between CITMA, MINCEX and UNDP.
2) A representative of the **Senior Supplier**, who will provide guidance regarding the technical feasibility of the project. This role will be filled by UNDP.
3) **Senior Beneficiaries**, who will represent the interests of those who will ultimately benefit from the project and ensure the realization of project results from the perspective of project beneficiaries. MINAG, MINTUR, MINAL and IPF will be represented on the Project Steering Committee.

155. Specific Responsibilities of the **Executive:** *(as part of the above responsibilities for the NSC):*

- Ensure that there is a coherent project organisation structure and logical set of plans;
- Set tolerances in the AWP and other plans as required for the Project Manager;
- Monitor and control the progress of the project at a strategic level;
- Ensure that risks are being tracked and mitigated as effectively as possible;
- Brief relevant stakeholders about project progress;
- Organise and chair NSC meetings.

156.Specific Responsibilities of the **Senior Supplier:** (as part of the above responsibilities for the NSC):

- Make sure that progress towards the outputs remains consistent from the supplier perspective;
- Promote and maintain focus on the expected project output(s) from the point of view of supplier management;
- Ensure that the supplier resources required for the project are made available;
- Contribute supplier opinions on NSC decisions on whether to implement recommendations on proposed changes;
- Arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

157.Specific Responsibilities of the **Senior Beneficiary:** (as part of the above responsibilities for the NSC):

- Prioritize and contribute beneficiaries' opinions on NSC decisions on whether to implement recommendations on proposed changes;
- Specification of the Beneficiary's needs is accurate, complete and unambiguous;
- Implementation of activities at all stages is monitored to ensure that they will meet the beneficiary's needs and are progressing towards that target;
- Impact of potential changes is evaluated from the beneficiary point of view;
- Risks to the beneficiaries are frequently monitored.

158. The **Project Manager** will run the project on a day-to-day basis on behalf of the Implementing Partner under the guiding by the Steering Committee. The Project Manager function will end when the final project terminal evaluation report and corresponding management response, and other documentation required by the GEF and UNDP, has been completed and submitted to UNDP (including operational closure of the project).

159. The **project assurance** role will be provided by the UNDP Country Office. Additional quality assurance will be provided by the UNDP Regional Technical Advisor as needed.

160. Governance role for project target groups: Local stakeholders will be formally represented in project decision-making and planning structures through a number of organizations. The National Association of Small Farmers (ANAP), the Cuban Association of Animal Production (ACPA) and the Cuban Association of Agricultural and Forestry Technicians (ACTAF) will be participating in the project activities.

161. UNDP Direct Project Services as requested by Government: The UNDP country office may provide, at the request of CITMA, the following support services for the activities of the project (see Mandatory Annex K for more detail):

(a) Identification and/or recruitment of project and programme personnel;
(b) Procurement of goods and services;
(c) Financial transactions;
(d) Identification and facilitation of training activities

162. Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information**:** In order to accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[31] and the GEF policy on public involvement[32].

163. Project management*:* The Project Executive Management Unit (PEMU) of the project will be made up of 6 members, based in the National Centre for Protected Areas (CNAP). Its members will carry out the following functions: Project Director, Thematic Adviser, Financial Director, Technical Coordinator, and Coordinators of Components 1, 2 and 3. Of the 6 members of the Unit, 5 will be staff members of CNAP and 1 of the Institute of Tropical Geography (IGT). The IGT member will be seconded to CNAP due to their technical expertise in relation to issues of economic valuation.

164. The Broader Project Management Unit will be made up of the members of the Executive Management Unit and, in addition, of representatives of the national institutions involved in the project, production sectors and provincial coordinators in each of the 5 target territories.

165. The Provincial Coordination Teams will be led by the Territorial Delegations of Science, Technology and Environment. In each one, there will be represented the institutions and production sectors which will be involved in project implementation at territorial level, in accordance with the thematic lines of work to be covered in each intervention area. Local representatives of the demonstration sites will also be included in the Provincial Coordination Teams.

[31] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/
[32] See https://www.thegef.org/gef/policies_guidelines

IX. FINANCIAL PLANNING AND MANAGEMENT

166. The total cost of the project is USD47,465,365. This is financed through a GEF grant of USD 9,580,365, USD 37,885,000 in cash co-financing and USD85,000 in parallel co-financing[33]. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources.

167. Parallel co-financing: The actual realization of project co-financing will be monitored during the *mid-term review* and terminal evaluation process and will be reported to the GEF.

Co-financing source	Co-financing type	Co-financing amount	Planned Activities/Outputs	Risks	Risk Mitigation Measures
CNAP	Grants	4,800,000	Project staff salaries, office space, infrastructure development, water, costs of public services (water, electricity, communications)	None	N/A
PNCMS	Grants	24,000,000	Financial support to land management activities through the PNMCS -Support to infrastructure, communication and general services to specialists working on the Project in the target provinces -Provision of territorial specialists participating in the project -Salaries of specialists carrying out capacity development and instruction activities -Continued support to soil, water and forest conservation polygons.	None	N/A
FONADEF	Grants	8,000,000	-Financial support to forest management activities through FONADEF	None	N/A
FNMA	Grants	1,000,000	-Financing of the development of national research projects to support the implementation of the project	None	N/A
UNDP	In kind	85,000	- Enhance knowledge management - Promote synergies between UNDP projects in implementation, at national and local levels - Support the communication processes of project results, ensuring the dissemination of its contributions to the implementation of national policies - Support the design and implementation of project communication strategies	None	N/A

168. Budget Revision and Tolerance: 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. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF: a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more; b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.

[33] According to the official exchange rate defined by the Central Bank of Cuba, 1 Cuban Peso (CUP) is equivalent to 1 US dollar (USD)

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

170. Refund to Donor: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

171. Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP.[34] On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

172. Operational completion: The project will be operationally completed 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. 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.

173. 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).

174. The project will 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 UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the UNDP Country Office.

[34] see https://info.undp.org/global/popp/ppm/Pages/Closing-a-Project.aspx

X. TOTAL BUDGET AND WORK PLAN

Total Budget and Work Plan			
Atlas Proposal or Award ID:	00094887	Atlas Primary Output Project ID:	00098961
Atlas Proposal or Award Title:	Incorporating multiple environmental considerations and their economic implications into the management of landscapes, forests and production sectors in Cuba. (VALORACION ECONOMICA Y AMBIENTAL)		
Atlas Business Unit	CUB10		
Atlas Primary Output Project Title	ECOVALOR FULL SIZE		
UNDP-GEF PIMS No.	5760		
Implementing Partner	National Centre for Protected Areas (CNAP) of the Ministry of Science, Technology and Environment (CITMA)		

GEF Component/ Atlas Activity	Responsible Party (Atlas Implementing Agent)	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget 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)	Total (USD)	See Budget Note:
COMPONENT/ OUTCOME 1: Legal, policy and institutional frameworks in key sectors favouring the generation of global environmental benefits (BD, LD and SFM)	**CITMA**	**62000**	**GEF**	72500	Supplies	5,000	19,000	18,000	11,000	10,000	10,000	**73,000**	1
				73400	Rental & Maint of Other Equip	11,000	50,000	47,000	44,000	42,000	41,000	**235,000**	2
				72100	Contractual Services -Companies	8,344	25,000	25,000	25,000	19,000	10,000	**112,344**	3
				71600	Travel	20,140	23,280	20,984	20,560	20,560	20,280	**125,804**	4
				72800	Information Technology Equipmt	18,000	30,000	26,000	26,000	24,000	18,000	**142,000**	5
				72200	Equipment and Furniture	0	241,373	150,000	150,000	15,000	6,000	**562,373**	6
				71200	International Consultants	25,000	60,000	60,000	50,000	40,030	40,000	**275,030**	7
				72400	Communic & Audio Visual Equip	2,000	10,000	10,620	10,360	10,180	5,120	**48,280**	8
				75700	Training, Workshops and Confer	23,000	27,000	27,000	21,000	15,000	19,000	**132,000**	9
				72300	Materials and goods	5,000	15,000	15,000	10,000	10,000	3,000	**58,000**	10
				74200	Audio Visual&Print Prod Costs	2,000	5,000	3,000	5,000	5,000	10,000	**30,000**	11
				74500	Miscellaneous Expenses	2,000	5,000	5,000	5,000	1,000	1,000	**19,000**	12
				73300	Rental & Maint of Info Tech Eq	1,000	3,000	3,000	2,000	2,000	1,000	**12,000**	13
				Total Outcome 1		**122,484**	**513,653**	**410,604**	**379,920**	**213,770**	**184,400**	**1,824,831**	

COMPONENT/ OUTCOME 2: Targeted scenario analysis guiding decision-makers on the implications of different courses of action in the target sectors affecting natural resources and global environmental values	**CITMA**	**62000**	**GEF**	72500	Supplies	8,000	15,000	15,000	15,000	15,000	15,000	**83,000**	14
				73400	Rental & Maint of Other Equip	14,000	75,000	75,000	75,000	75,000	75,000	**389,000**	15
				72100	Contractual Services -Companies	10,600	46,000	46,000	46,000	46,000	22,000	**216,600**	16
				71600	Travel	20,000	25,000	25,000	25,000	24,000	15,000	**134,000**	17
				72800	Information Technology Equipmt	27,700	55,000	55,000	55,000	55,000	20,000	**267,700**	18
				72200	Equipment and Furniture	0	80,500	95,000	95,000	33,000	16,000	**319,500**	19
				71200	International Consultants	20,000	30,000	30,000	20,000	20,000	16,000	**136,000**	20
				72400	Communic & Audio Visual Equip	4,000	25,000	24,000	25,000	25,000	20,947	**123,947**	21
				75700	Training, Workshops and Confer	33,000	85,000	85,000	85,000	81,000	75,200	**444,200**	22
				72300	Materials and goods	10,000	72,000	72,000	72,000	72,000	72,000	**370,000**	23
				74200	Audio Visual&Print Prod Costs	5,000	15,000	30,000	35,000	25,000	20,000	**130,000**	24
				74500	Miscellaneous Expenses	5,000	16,000	20,000	20,000	20,000	15,000	**96,000**	25
				73300	Rental & Maint of Info Tech Eq	2,300	5,000	5,000	5,000	5,000	5,000	**27,300**	26
				Total Outcome 2		**159,600**	**544,500**	**577,000**	**573,000**	**496,000**	**387,147**	**2,737,247**	
COMPONENT/ OUTCOME 3: Pilot experiences generating, validating and demonstrating mechanisms for optimizing and internalizing the values of ecosystem goods and services in the	**CITMA**	**62000**	**GEF**	72500	Supplies	10,000	20,000	25,000	20,000	20,000	20,000	115,000	27
				73400	Rental & Maint of Other Equip	20,000	110,000	110,000	110,000	110,000	110,000	570,000	28
				72100	Contractual Services -Companies	10,200	61,081	60,081	60,000	60,000	45,000	296,362	29
				71600	Travel	16,500	28,324	28,000	25,000	23,000	20,324	**141,148**	30
				72800	Information Technology Equipmt	15,000	100,000	100,000	100,000	95,000	60,000	**470,000**	31
				72200	Equipment and Furniture	0	251,200	190,855	180,855	60,000	50,000	**732,910**	32

target sectors and associated landscapes				71200	International Consultants	15,000	30,000	40,000	30,000	38,000	25,000	178,000	33
				72400	Communic & Audio Visual Equip	85,000	110,000	110,000	110,000	110,000	110,000	635,000	34
				75700	Training, Workshops and Confer	7,000	141,485	140,000	140,000	145,000	145,000	718,485	35
				72300	Materials and goods	5,000	40,000	50,000	60,000	60,000	70,000	285,000	36
				74200	Audio Visual&Print Prod Costs	4,225	60,000	50,000	50,000	38,450	18,450	221,125	37
				74500	Miscellaneous Expenses	4,000	47,500	36,000	35,000	30,000	9,550	**162,050**	38
				73300	Rental & Maint of Info Tech Eq	5,000	9,000	8,000	7,000	5,000	3,000	**37,000**	39
				Total Outcome 3		**196,925**	**1,008,590**	**947,936**	**927,855**	**794,450**	**686,324**	**4,562,080**	
PROJECT MANAGEMENT	**CITMA**	**62000**	**GEF**	72500	Supplies	1,000	2,000	2,000	2,000	3,000	3,000	**13,000**	40
				73400	Rental & Maint of Other Equip	6,000	7,000	7,000	7,000	7,000	7,000	**41,000**	41
				72100	Contractual Services -Companies	2,616	3,000	3,866	4,786	3,866	4,785	**22,919**	42
				71600	Travel	5,000	5,000	5,000	5,000	2,200	2,000	**24,200**	43
				72800	Information Technology Equipmt	2,000	4,000	4,000	4,000	3,000	2,000	**19,000**	44
				72200	Equipment and Furniture	0	35,000	3,000	3,000	2,000	2,000	**45,000**	45
				71200	International Consultants	1,000	0	20,000	0	0	40,000	**61,000**	46
				72400	Communic & Audio Visual Equip	4,595	2,000	2,000	2,000	2,000	2,000	**14,595**	47
				75700	Training, Workshops and Confer	25,000	4,000	4,000	4,000	4,000	4,813	**45,813**	48
				72300	Materials and goods	2,500	3,000	2,000	2,000	1,000	1,000	**11,500**	49
				74200	Audio Visual&Print Prod Costs	1,000	1,000	2,000	2,000	3,180	2,000	**11,180**	50
				74500	Miscellaneous Expenses	800	1,500	1,500	1,700	1,500	1,000	**8,000**	51
				74100	Professional Service	0	0	10,000	10,000	10,000	11,000	**41,000**	52

				73300	Rental & Maint of Info Tech Eq	1,000	0	500	500	500	500	3,000	53
				74596	DPC	3,800	20,200	30,000	21,000	10,500	9,500	95,000	54
				Total Management		56,311	87,700	96,866	68,986	53,746	92,598	456,207	
				Project Total		535,320	2,154,443	2,032,406	1,949,761	1,557,966	1,350,469	9,580,365	

Summary of Funds:

	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Amount Year 5	Amount Year 6	Total
GEF	535,320	2,154,443	2,032,406	1,949,761	1,557,966	1,350,469	**9,580,365**
UNDP	4,590	18,785	18,785	17,595	13,430	11,815	**85,000**
Government	5,900,000	5,900,000	6,500,000	6,500,000	6,500,000	6,500,000	**37,800,000**
TOTAL	6,439,910	8,073,228	8,551,191	8,467,356	8,071,396	7,862,284	**47,465,365**

Note:

Years 1 to 6 in the above table correspond to the following schedule: Year 1: Sep. 2018 - Aug. 2019; Year 2: Sep. 2019 - Aug. 2020; Year 3: Sep. 2020 - Aug. 2021; Year 4: Sep. 2021 - Aug. 2022; Year 5: Sep. 2022 - Aug. 2023 and Year 6: Sep. 2023 – Aug. 2024.

In Atlas there will be 7 sequences: 2018, 2019, 2020, 2021, 2022, 2023 and 2024.

Budget Notes

#	Atlas Code		Total per budget note	Explanation
Component 1				
1	72500	Supplies	73,000	Office accesories and inputs (paper, pens, folders, toners and other supplies) for participating institutions in relation to activities under Component 1
2	73400	Rental & Maint of Other Equip	235,000	Equipment maintenance, fuels, lubricants, spart parts, accesories, technical inspection, insurance for participating institutions in relation to activities under Component 1
3	72100	Contractual Services-Companies	112,344	Transport hire, participation in national events related to project issues, contracting of services and design of publications, contracting of technical advice on Project issues related to Component 1
4	71600	Travel	125,804	Tickets and DSA for international Travel for exchanges of experiences and lessons learned in other similar projects, courses, trainings, workshops, participation in scientific events on issues related to the legal, regulatory and normative framework and economic-financial instruments, in the context of the incorporation of economic valuation of ecosystem services in decision-making. The calculation include: air tickets, DSA (US$ 210,00 per day), inscriptions: **Year 1 - USD 20,140:** 2 trips to Latin America, 1) exchange of experiences on policy and decision-making arrangements for the incorporation of multiple environmental considerations in development planning, for 7 days, for 10 people; 2) Conference of the International Society for Ecological Economics – ISEE 2018, for 5 days, for 3 people (Mexico City) **Year 2 - USD 23,280:** 2 trips to Latin America, 1) exchange of experiences: regulatory frameworks that recognise ecosystem goods and services, for 7 days, for 5 people; 2) exchange of experiences with the project "Atlas of environmental conflict solution", for 7 days, for 10 people. **Year 3: USD 20,984:** 2 trips to Latin America, 1) exchange of experiences in designing and implementing environmental accounts, for 7 people for 7 days; 2) Latin American Congress on Environmental Conflicts, for 3 people for 5 days; **Year 4: USD 20,560:** 2 trips to Latin America, 1) exchange of successful experiences and lessons learned at international level with the incorporation of economic valuation of ecosystem goods and services in the application of instruments economic-financial and environmental, for 6 people for 6 days; 2) exchange of experiences: Environmental Planning schemes that incorporate ecosystem services value, for 5 people for 7 days, **Year 5: USD 20,560:** 2 trips to Latin America, 1) Latin American Congress on Environmental Conflicto=s, for 3 people for 6 days; 2) Training and capacity development on the incorporation of economic valuation of ecosystem goods and services in decision-making, for 8 people for 6 days; **Year 6: USD 20,280:** 2 trips to Latin America, 1) exchange of experiences: Environmental funds that incorporate the economic value of ecosystem services, for 9 people for 6 days; 2) Iberoamerican Congress on Development and Environment, for 2 people for 6 days;
5	72800	Information Technology Equipmt	142,000	Purchase of Information Technology Equipment, accesories and inputs for the strengthening of capacities of institutions related to the legal, regulatory and normative framework and economic-financial instruments, in the context of the incorporation of economic valuation of ecosystem services in decision-making (MEP, MFP, CITMA, BCC, ONEI, MINAL, MINTUR, MINAG, MINEM, MININT, MES): Personal Computers , Laptop, Back-Up, External Hard Drives 1 TB and 2TB, USB flash, MonitorTV, Datashow, Printers, Digital Camera, Fans, Air conditioning, Splits, refrigerators. **Year 1: 18,000; Year 2: 30,000; Year 3: 26,000; Year 4: 26,000; Year 5: 24,000; Year 6: 18,000.**
6	72200	Equipment and	562,373	Purchase of equipment for participating institutions, for logistical support on issues

#	Atlas Code		Total per budget note	Explanation
		Furniture		related to related to the economic valuation of ecosystem services and the legal, regulatory and normative framework. Total cost of vehicles across all components (cars, motorcycles, motorcycles with sidecars and minibus used for essential mobility of project technicians from participating institutions in the widely separated localities covered by the project) = USD535,000. **Year 1: 0 USD** **Year 2: 241,373 USD**: Cars, minibuses, motorcycles, truck and equipment for strengthening the institutions involved in the project. **Year 3: 150,000 USD**: Cars, minibuses, motorcycles and equipment. **Year 4: 150,000 USD:** Cars, minibuses, motorcycles and equipment. **Year 5: 15,000 USD** Equipment. **Year 6: 6,000 USD**: Equipment.
7	71200	International Consultants	275,030	International consultancies in support of issues related to financial mechanisms and the legal, judicial and regulatory framework in support of project results, including technical advice and consultancies on environmental accounting at national and business levels, design and implementation of economic and financial intruments that internalize the value of ecosystem services, policy and decision-making arrangements for the inclusion of multiple environmental considerations in development planning, the identification and analysis of information need, knowledge and learning in the policy, legal and regulatory framework. The calculations include: fee USD 700 per day, air tickets, USD 269 DSA Havana & USD 188 Terminal Expenses: **Year 1: 25,000 USD:** (2 consultants x 12 days – issues: 1) Analysis of the effectiveness of decision-making in the policy, legal, regulatory and institutional framework at national, sector and territorial levels, in relation to the incorporation of considerations of the economic evaluation of ecosystem goods and services. 2) Technical advice on the use of tools for the evaluation of the effectiveness of planning and landscape management processes based on the results of the economic valuation of ecosystem goods and services (Indicator 1.3 of the logical framework) **Year 2: 60,000 USD:** (5 consultants x 12 days – Issues: 1) Analysis of environmental conflicts and spaces for reconciling interests at national and local levels, 2) Analysis of the functioning of existing economic, financial and environmental instruments at national and sector levels related to productive activities and sectors, in relation to the incorporation of the economic value of ecosystem goods and services., 3) Design of a tool for the evaluation of the strengthening of human and institutional capacities that incorporates the results of the economic valuation of ecosystem goods and services, 4) Design and elaboration of a proposal for a National PA System that incorporates considerations of the economic evaluation of ecosystem goods and services in its legal, regulatory and institutional framework (at national and local levels), 5) Analysis of institutional capacitie for the design and application of a system of environmental accounts at national and sector levels) **Year 3: 60,000 USD:** (5 consultants x 12 days – Issues: 1) Analysis of needs and potential of capacity development for different target audiences in relation to the incorporation of the economic value of ecosystem goods and services in decision-making, and the elaboration of a training strategy to stregnthen national and territorial capacities; 2) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in decision-making of the forestry sector at national, sector and local levels; 3) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in

#	Atlas Code		Total per budget note	Explanation
				decision-making of the agriculture sector at national, sector and local levels; 4) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in decision-making of the tourism sector at national, sector and local levels; 5) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in decision-making in relation to spatial and environmental planning. **Year 4: 50,000 USD:** (4 consultants x 12 days – Issues: 1) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in decision-making related to economic policy at national, sector and local levels; 2) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in decision-making related to financial policy at national, sector and local levels; 3) Review and elaboration of methodological and normative proposals for documents that incorporate the economic value of ecosystem goods and services in decision-making related to environmental financial policy at national, sector and local levels, including environmental regulation and fiscalization; 4) Design of decision-making schemes with prospective vision that incorporate considerations of the economic value of ecosystem goods and services at national, sector and local levels. **Year 5: 40,030 USD:** (3 consultants x 12 days – Issues: 1) Implications for decision-making of the incorporation of the value of ecosystem goods and services in information policy; 2) Proposal for strengthening of the legal, regulatory and institutional framework of intersector platforms for negotiation of environmental conflicts that incorporate the results of the economic valuation of ecosystem goods and services; 3) Elaboration of a methodological guide for the application of environmental insurance at sector level, incorporating the results of the economic valuation of ecosystem goods and services) **Year 6: 40,000 USD:** (3 consultants x 12 days – Issues: 1) Elaboration of strategy for the future design and implementation of environmental accounts at national and business level; 2) Elaboration of strategy for the financing and mobilization of resources to cover financial gaps in the key sectors involved; 3) Tool for monitoring the effectiveness of the incorporation in decision-making of the results of economic valuation of ecosystem goods and services at national and sector levels)
8	72400	Communic & Audio Visual Equip	48,280	Audiovisual and communication equipment, and associated costs in support of tasks related to the promotion of the Project and its work on the legal, regulatory and normative framework and financial mechanisms.
9	75700	Training, Workshops and Confer -	132,000	Workshops for the review and updating of methodologies; promotion of issues related to the Project; discussion of first drafts of methodologies; identification of the financial mechanisms to be used in the project. The calculation includes: rent, accommodation, lunchs & coffee break, supplies, transportation: **Year 1: 23,000 USD** (2 workshops: 80 pax x 3 days, 1/ National workshop for socialization of results of the analysis of the policy, legal and regulatory framework obtained through the BIOFIN initiative in relation to the economic evaluation of ecosystem goods and services) 2/ Workshops for exchange of technical criteria for the analysis of the implementation of del policy, legal and regulatory framework related to the economic evaluation of ecosystem goods and services; **Year 2: 27,000 USD** (2 workshops: 80 pax x 3 days + supplies for training) 1/ Workshop for the presentation, discussion and socialization of proposals of modifications of the policy, legal, normative and regulatory framework, related to

#	Atlas Code		Total per budget note	Explanation
				the economic evaluation of ecosystem goods and services. 2/ Workshops for analysis of proposals for the incorporation of the economic evaluation of ecosystem goods and services into documents on the legal, regulatory and institutional framework related to development planning and territorial planning. **Year 3: 27,000 USD** (2 workshops: 80 pax x 3 days + supplies for training), 1/ Workshops for the identification of sector interests in the inclusion of the economic value of ecosystem goods and services and the use and conservation of biodiversity (including analysis of conflicts in decision-making). 2/ Workshop for analysis of national capacitie for the design and implementation of environmental accounts at national and business levels. **Year 4: 21,000 USD** (1 workshop: 80 pax x 3 days & 1 workshop: 30 pax x 3 days), Workshop for identification and analysis of the la effectiveness of existing economic-financial and environmental mechanisms at national and sector levels. **Year 5: 15,000 USD** (1 workshop: 80 pax x 3 days): Implementation of the capacity development strategy related to the incorporation of the economic value of ecosystem goods and services in decision-making **Year 6: 19,000 USD** (1 workshop: 80 pax x 3 days & 1 workshop: 30 pax x 3 days): Evaluation or systematization of the application of the strategy (plan) and programmes for training related to the incorporation of the economic value of ecosystem goods and services in decision-making
10	72300	Materials & Goods -	58,000	Materials and goods for logistical support needed by the PMU, as well as the national institutions involved (MEP, MFP, CITMA, BCC, ONEI, MINAL, MINTUR, MINAG, MINEM, MININT, MES). Promotional articles on the project identity. PC tables, office chairs, filin cabinets, whiteboards, meeting tables and chairs, projection screen, power cables, desks, tables, bookcases. **Year 1: USD 5,000; Year 2: USD 15,000; Year 3: USD 15,000; Year 4: USD 10,000; Year 5: USD 10,000; Year 6: USD 3,000.**
11	74200	Audio Visual&Print Prod Costs	30,000	Publication of pamphlets, other promotional materials, and audiovisual materials in support of education, training and promotion of the objectives and goals of the Project.
12	74500	Miscellaneous Expenses	19,000	Miscellaneous costs including bank costs, insurance, logistical support.
13	73300	Rental & Maint of Info Tech Eq	12,000	Maintenance of information and technology equipment, software licences related to the processing of satellite images, processing of carbón data and updating of satellite images
			1,824,831	
Component 2				
14	72500	Supplies	83,000	Office accesories and inputs (paper, pens, folders, toners and other supplies) for participating institutions in relation to activities under Component 2
15	73400	Rental & Maint of Other Equip	389,000	Equipment maintenance, fuels, lubricants, spart parts, accesories, technical inspection, insurance for participating institutions in relation to activities under Component 2
16	72100	Contractual Services-Companies	216,600	Transport hire, participation in national events related to project issues, contracting of services and design of publications, contracting of technical advice on Project issues under Component 2
17	71600	Travel	134,000	Tickets and DSA for international travel for exchanges of experiences and lessons learned in other similar projects, courses, trainings, workshops, participation in scientific events on issues related to the legal, regulatory and normative framework and economic-financial instruments, case studies, databases. Information systems and other key aspects of communication, in the context of the incorporation of

#	Atlas Code		Total per budget note	Explanation
				economic valuation of ecosystem services in decision-making. The calculation include: air tickets, DSA, inscriptions: **Year 1: 20,000 USD**: 2 trips to Latin America, 1) training on Target Scenario Analysis (TSA) and methodological tools, for 5 people and 6 days; 2) Training course: incorporation of economic valuation of ecosystem goods and services in methodologies for environmental and territorial planning, for 5 people and 6 days. **Year 2: 25,000 USD:** 3 trips to Latin America, 1) Training course: tools for biophysical assessment and mapping of ecosystem services, for 5 people and 6 days; 2) Training course: management of database servers through Filemaker Server software, for 1 person for 6 days; 3) Training course: Geographic information system, teledetection and modelling of ecosystem services, for 4 people and 6 days; **Year 3: 25,000 USD:** 3 trips to Latin America, 1) Training course: Economic assessment tools for ecosystem services assessment, for 9 people and 6 days; 2) Training course: Tools fos the elaboration of strategies for decision-making to optimize flows of ecosystem goods and services, for 5 people and 6 days; 3) Training course: economic evaluation of climate change in ecosystem services, for 2 people and 6 days. **Year 4: 25,000 USD:** 3 trips to Latin America, 1) Training course: design of indicators of the effectiveness of decision-making to optimize flows of ecosystem goods and services, for 6 people and 6 days; 2) Training course: Financial sustainability in Protected Areas, for 9 people and 6 days; 3) Exchange of experiences: Communication and socioeconomic monitoring, for 3 people and 6 days. **Year 5: 24,000 USD:** 3 trips: 1 to Europe and 2 to Latin America, 1) Conference of the International Society for Ecological Economics – ISEE 2022, for 2 people for 6 days; 2) Training course: evaluation of risks to ecosystem services from extreme events, for 5 people for 6 days; 3) exchange of experiences: management of databases, compendia and information systems that incorporate the results of economic valuation of ecosystem goods and services for decision-making, for 5 people for 6 days. **Year 6: 15,000 USD:** 2 trips to Latin America, 1) exchange of experiences: methodological protocols to guide processes for the negotiation of damage to ecosystem goods and services under environmental externalities, for 5 people for 6 days; 2) Training course: monitoring and evaluation of the effectiveness of decision-making to optimize flows of ecosystem goods and services, for 4 people for 6 days.
18	72800	Inormation Technology Equipmt	267,700	Purchase of Information Technology Equipment, accesories and inputs for activities related to targeted scenario analysis in the target sectors such as: Personal Computers, Laptop, Back-Up, External Hard Drives 1 TB and 2TB, USB flash, TV Monitor, Datashow, Printers, Digital Camera, Fans, Air conditioning, Splits, Refrigerators, Servers. Equipment for Environmental data collecting. **Year 1: 27,700; Year 2: 55,000; Year 3: 55,000; Year 4: 55,000; Year 5: 55,000; Year 6: 20,000.**
19	72200	Equipment and Furniture	319,500	Purchase of equipment including cars, minibuses, motorcycles and furniture for the strengthening of research centres, institutions and universities that provide information to the project, as well as laboratory equipment for the analysis of water, soil and vegetation samples, and air conditioning units. **Year 1: 0; Year 2: 85,000; Year 3: 95,000; Year 4: 95,000; Year 5: 33,000; Year 6: 16,000.**
20	71200	International Consultants	136,000	International consultancies on issues related to Component 2, covering issues including the development of methodologies and studies on the use of the ExAct too, software for information systems, modelling of ecosystem services, evaluation of ecosystem resiliences, GIS tools for the mapping of ecosystem services; economic

#	Atlas Code		Total per budget note	Explanation
				valuation and evaluation of ecosystem services, analysis of the effectiveness of economic and financial instruments, support tools for targeted scenario analysis and modelling; spatial planning of ecosystem services; environmental impact analysis; economic evaluation of sustainable productive practices, evaluation of risks of extreme events, economic evaluation of climate change in ecosystem services; socioeconomic communication and monitoring, strategies for decision-making and the design of indicators of the effectiveness of decisions. The calculation includes: fees (USD700/ day, air tickets, USD269/day for DSA in Havana & USD188 for terminal expenses **Year 1: 20,000 USD:** (2 consultants x 10 days – Issues: 1/ Technical advice on the use of the ExAct tool; 2/ TSA for decision-making and tools for the construction of escenarios **Year 2: 30,000 USD:** (3 consultants x 10 days – Issues: 1/ Elaboration of proposal of methodology for the characterization and resilience of ecosystem goods and services in the intervention areas; 2/ Design and implementation of a sistema of information for decision-making, 3/ Tools for the economic valuation of ecosystem goods and services and environmental damage: theoretic and practical considerations. **Year 3: 30,000 USD:** (3 consultants x 10 days – Issues: 1/ GIS applications for the modelling and mapping of ecosystem goods and services (thematic mapping); 2/ Design and implementation of tools to support decision-making that optimize flows of ecosystem goods and services (multicriteria, etc); 3/ Design, application and control of economic-financial instruments and environmental incentives that include the value of ecosystem goods and services in policies, plans, programmes and production sectors) **Year 4: 20,000 USD:** (2 consultants x 12 days – Issues: 1/ Economic evaluation of impacts of climate change on ecosystem goods and services; 2/ Information needs for court cases with economic aspects related to damages to ecosystems and their services) **Year 5: 20,000 USD:** (2 consultants x 12 days – Issues: 1/ Design of methodology for the economic evaluation of environmental impacts on ecosystem goods and services in specific sectors and activities; 2/ Field protocols for the economic evaluation of sustainable productive practices) **Year 6: 16,000 USD:** (2 consultants x 10 days – Issues: 1/ Evaluation of the effectiveness of the information system and TSA in decision-making on the implications of different courses of action that affect flows of ecosystem goods and services en target sectors and localities; 2/ Tools for the analysis of the effectiveness of economic-financial instruments
21	72400	Communic & Audio Visual Equip	123,947	Audiovisual and communication equipment, and associated costs in support of tasks related to the promotion of the Project and its work on the economic valuation of ecosystem goods and services and its incorporation in decision-making and in the information system for decision making.
22	75700	Training, Workshops and Confer -	444,200	Workshops for the design of methodologies associated with the analysis of scenarios and the economic valuation of ecosystem services, preparation of case studies, validation of methodologies and the results of case studies, design and implementation of the information system in support of decision making, monitoring of the effectiveness of the implementation of the information system, and design and implementation of the communication strategy to be developed in the project. The calculation includes: rent, accommodation, lunchs & coffee break, supplies, transportation: **Year 1: 33,000 USD:** • 2 workshops: 80 pax x 3 days: 1/ Workshop for analysis of the current status and

#	Atlas Code		Total per budget note	Explanation
				information needs for decision-making that internalizes the economic value of ecosystem goods and services; 2/ Definition of indicators for the measurement of the effectiveness of decision-making. • 1 workshop: 40 pax x 3 days: Definition of strategy for the solution of problems identified in the analysis of information for decision-making that internalizes the economic value of ecosystem goods and services. **Year 2: 85,000 USD:** • 5 workshops: 80 pax x 3 days: 1/ Elaboration of proposal of methodology for the characterization of ecosystem goods and services en the intervention sites (protected areas, forestry, water, soil and fisheries demonstration polygons,) 2/ Analysis of the communication needs of target audiences on issues related to the economic valuation of ecosystem goods and services; **Year 3: 85,000 USD:** • 4 workshops: 80 pax x 3 days: 1/ Elaboration of methodology for the construction and analysis of scenarios (TSA) related to the economic value of ecosystem goods and services and decision-making; 2/ Elaboration of methodology for the economic valuation of ecosystem goods and services en production sectors and selected ecosystems; 3/ Elaboration of a methodology for the design, application and control of economic-financial instruments that include the value of ecosystem goods and services in policies, plans, programmes and production sectors; 4/ Elaboration of methodology for the economic evaluation of sustainable production practices in selected sectors. • 3 workshops: 25 pax x 3 days): 1/ Elaboration of methodology for the economic evaluation of impacts on ecosystem goods and services of selected ecosystems 2/ Use of SIG for the mapping of ecosystem goods and services in selected ecosystems 3/ Identification of awareness-raising materials in accordance with the needs of target audiences **Year 4: 85,000 USD:** • 5 workshops: 80 pax x 3 days: 1/ Methodology for the elaboration and analysis of strategies for decision-making related to the use and conservation of BD; 2/ Technical workshops for the review and adjustment methodological instruments for TSA that incorporate economic valuation of ecosystem goods and services; 3/ workshop for validation of methodology for the characterization of ecosystem goods and services in intervention sites based on the results of information collection and monitoring of selected ecosystems; 4/ Elaboration of a general proposal of a financial mechanism for the SNAP 5/ Implementation of the strategy or programme of capacity development and awareness raising at different levels. • 1 workshop: 25 pax x 3 days): Elaboration of methodology for economic evaluation of measures for mitigation and adaptation to cambio climático based on the economic valuation of ecosystem goods and services in selected ecosystems (CC impacts) **Year 5: 81,000 USD** • 5 workshops: 80 pax x 3 days: Presentation of results of economic evaluation of measures for the reduction of risks and impacts on ecosystem goods and services, to key actors in the agricultural, forestry, tourism and protected areas sectors, at national and territorial levels, and workshop on lessons learned. • 1 workshop: 25 pax x 3 days): Presentation of results of economic evaluation of measures for the reduction of risks and impacts on ecosystem goods and services, to key actors in the fisheries sectors, at national and territorial levels, and workshop on lessons learned.

#	Atlas Code		Total per budget note	Explanation
				Year 6: 75,200 USD: • 4 workshops: 80 pax x 3 days): 1/ Presentation of results of economic valuation of forest degradation and evolution of carbon reserves, to key actors in production sectors, at national and territorial scale; 2/ Presentation of results of economic evaluation of measures for the reduction of risks and impacts on ecosystem goods and services, to key actors in hydrocarbon sectors, at national and territorial levels; 3/ Presentation of results of TSA to key actors in production sectors, at national and territorial scale; • 1 workshops: 150 pax x 3 days: closure workshop.
23	72300	Materials & Goods -	370,000	Materials and goods for logistical support needed by centres of research and environmental services, universities, national directorates of ministries involved and business groups, as well as the national institutions involved: office materials in support of working groups and activities under component 2: PC tables, office chairs, filin cabinets, whiteboards, meeting tables and chairs, projection screen, power cables, desks, tables, bookcases, project promotional materials, diving equipment, satellite images for thematic cartography and modelling of ecosystem services, laboratory glassware, fieldwork and camping equipment, field analysis equipment (measuring tapes, salinity metres, digital pH metres, digital balances, forestry markers, dbh tapes, etc.) **Year 1: 10,000; Year 2: 72,000; Year 3: 72,000; Year 4: 72,000; Year 5: 72,000; Year 6: 72,000**.
24	74200	Audio Visual&Print Prod Costs	130,000	Publication of pamphlets, other promotional materials, and audiovisual materials in support of education, training and promotion of the objectives and goals of the Project, especially activities under Component 2.
25	74500	Miscellaneous Expenses	96,000	Miscellaneous costs including bank costs, insurance, logistical support related to Component 2.
26	73300	Rental & Maint of Info Tech Eq	27,300	Maintenance of information and technology equipment, software licences related to the processing of satellite images, processing of carbon data and updating of satellite images in support of Component 2
			2,737,247	
Component 3				
27	72500	Supplies	115,000	Office accesories and inputs (paper, pens, folders, toners and other supplies) for participating institutions in relation to activities under Component 3
28	73400	Rental & Maint of Other Equip	570,000	Equipment maintenance, fuels, lubricants, spare parts, accesories, technical inspection, insurance, rental of heavy equipment, transport of cargo or agricultural equipment for the establishment and management of resource management activities generating ecosystem benefits in target localities
29	72100	Contractual Services-Companies	296,362	Transport hire, participation in national events related to project issues, contracting of services and design of publications, contracting of technical advice on Project issues related to Component 3
30	71600	Travel	141,148	Tickets and DSA for international travel for exchanges of experiences and lessons learned in other similar projects, courses, trainings, workshops, participation in scientific events on issues related to the application at local level of pilots of economic and financial tools and instruments, and instruments for decision-making, solution of environmental conflicts, monitoring of ecosystem conditions and the application of best practices to reduce environmental impacts on ecosystem services associated with production sectors and conservation activities, and to generate environmental benefits. The calculation includes: air tickets, DSA, inscriptions: **Year 1: 16,500 :** 2 trips to Latin America, 1) Training course: analysis and integrated evaluation of the status of ecosystem services, for 10 people for 6 days; 2) Meeting

#	Atlas Code		Total per budget note	Explanation
				of the Marine Group of REDPARQUES (Colombia), for 2 people for 2 days. **Year 2: 28,324 :** 3 trips to Latin America, 1) Training course: indicators for monitoring ecosystem goods and services in marine/coastal ecosystems, for 6 people for 6 days; 2) Training course: field techniques for the characterization of ecosystem services, for 5 people for 6 days; 3) Training course: Resilience of ecosystem services, for 5 people for 6 days. **Year 3: 28,000 :** 2 trips to Latin America, 1) Training course: incorporation of ecosystem services in environmental impact analyses, for 6 people for 6 days; 2) Training course: economic evaluation of sustainable productive practices that optimize flows of ecosystem goods and services, for 9 people for 6 days. **Year 4: 25,000 :** 3 trips to Latin America, 1) Training course: design, implementation and analysis of the effectiveness of economic-financial instruments and environmental incentives that optimize flows of ecosystem goods and services, for 5 people for 6 days; 2) International Congress on Marine PAs, for 4 people for 6 days; 3) Exchange of experiences learned in the incorporation of economic valuation of ecosystem goods and services in environmental and territorial planning schemes, for 5 people for 6 days. **Year 5: 23,000 :** 3 trips to Latin America, 1) exchange of experiences: Sustainable Fishing Management, for 4 people for 7 days; 2) exchange of experiences: Sustainable Land Management, for 5 people for 7 days; 3) exchange of experiences: Sustainable Forest Management, for 5 people for 7 days; **Year 6: 20,324 :** 2 trips to Latin America, 1) exchange of experiences: Sustainable Tourism Management, for 6 people for 7 days; 2) exchange of experiences: Oil industry risk assessment, for 5 people for 6 days.
31	72800	Information Technology Equipmt	470,000	Purchase of Information Technology Equipment, accesories and inputs in support of the pilot experiences in target sectors and ecosystems, generating, validating and demonstrating mechanisms for the optimization and internalization of values of ecosystem goods and services, such as: Personal Computers, Laptop, Back-Up, External Hard Drives 1 TB and 2TB, USB flash, TV Monitor, Datashow, Printers, Digital Camera, Fans, Air conditioning, Splits, fridge, Equipment for Environmental data collecting, Equipment for field sample collecting, GPS portatil, Sonar for ships and boats, Ecosound/ships, drone for film/mapping, equipment for environmental data collecting, equipment for field sample collecting, portable GPS **Year 1: 15,000; Year 2: 100,000; Year 3: 100,000; Year 4: 100,000; Year 5: 95,000; Year 6: 60,000:**
32	72200	Equipment and Furniture	732,910	Purchase of equipment, cars, minibuses, motorcycles, irrigation systems, tractor, truck, boats, bulldozer, wheelbarrows and agriculture machinery, for pilot experiences in demonstration sites and agriculture and forestry polygons participating in the project. **Year 1: 0 USD; Year 2: 251,200; Year 3: 190,855; Year 4: 180,855; Year 5: 60,000; Year 6: 50,000**
33	71200	International Consultants	178,000	International consultancies in support of issues related to the application at local level of pilots of economic and financial tools and instruments, and instruments for decision-making, solution of environmental conflicts, monitoring of ecosystem conditions and the application of best practices to reduce environmental impacts on ecosystem services associated with production sectors and conservation activities, and to generate environmental benefits. To cover issues including: the application of sustainable production practices to generate environmental benefits, monitoring of the effectiveness of economic/environmental instruments in production sectors; incorporation of the economic value of ecosystem servives in decisión-making tools at local level; diagnosis and characterization of ecosystem services at local scale;

#	Atlas Code		Total per budget note	Explanation
				design of ecotourism products that optimise flows of ecosystem services; sustainable land management; sustainable forest management; integrated coastal management; environmental and territorial planning; financial sustainability in protected areas; evaluation of risks of hydrocarbon spills; indicators of sustainability at local scale. The calculations include: fees (700 USD per day), air tickets, DSA (269 USD in Havana) & Terminal Expenses (USD 188: **Year 1: 15,000 USD:** (1 consultant x 20 days – Issue: Tools for local monitoring of ecosystem goods and services) **Year 2: 30,000 USD:** (3 consultants x 10 days – Issues: 1/ Design of nature tourism products that optimize flows of ecosystem goods and services and generate environmental benefits; 2/ Tools for monitoring and evaluation of carbon (in the field) 3/ Tools for support of private sector use of marine and coastal resources **Year 3: 40,000 USD:** (4 consultants x 12 days – Issues: 1/ Application of good practices and measures for the reduction of impacts for the agricultural sector, to optimize flows of ecosystem goods and services and generate environmental benefits; 2/ Application of good practices and measures for reduction of impacts for the forest sector to optimize flows of ecosystem goods and services and generate environmental benefits; 3/ Application of good practices and measures for reduction of impacts for the fisheries sector to optimize flows of ecosystem goods and services and generate environmental benefits; 4/ Application of good practices and measures for reduction of impacts for conservation activities, to optimize flows of ecosystem goods and services and generate environmental benefits) **Year 4: 30,000 USD:** (3 consultants x 10 days – Issues: 1/ Schemes and processes of environmental and territorial planning, that incorporate the results of economic valuation of ecosystem goods and services and create conditions for the generation of environmental benefits at local scale; 2/ Application of environmental incentives in key sectors, that include the results of economic valuation of ecosystem goods and services and generate environmental benefits; 3/ Application of methodological pilots of economic-financial instruments that incorporate the results of economic valuation of ecosystem goods and services at local scale) **Year 5: 38,000 USD:** (2 consultants x 15 days – Issues: 1/ Economic evaluation of the productive and environmental viability of good practices in the agriculture and forestry sectors, incorporating results of economic valuation of ecosystem goods and services; 2/ Economic evaluation of the productive and environmental viability of good practices in the fisheries sector, incorporating results of economic valuation of ecosystem goods and services; **Year 6: 25,000 USD:** (4 consultants x 10 days – Issues: 1/ Evaluation at local scale of the vulnerability of ecosystems and their servicios to the impacts of climate change; 2/ Evaluation of risks associated with the hydrocarbon sector that affect the optimization of ecosystem goods and services; 3/ Analysis of the effectiveness of economic-environmental incentives in selected sectors and activities; 4/ Analysis of forest degradation in relation to the results of analyses of carbon balances in the forest sector)
34	72400	Communic & Audio Visual Equip	635,000	Audiovisual and communication equipment, and associated costs in support of tasks related at local level to good practices, training in the use of economic and financial instruments, decision-making instruments and the solution of conflicts.
35	75700	Training, Workshops and Confer	718,485	Workshops, training and conferences related to the application at local level of pilots of economic and financial tools and instruments, and instruments for decision-making, solution of environmental conflicts, monitoring of ecosystem conditions and the application of best practices to reduce environmental impacts on

#	Atlas Code		Total per budget note	Explanation
				ecosystem services associated with production sectors and conservation activities, and to generate environmental benefits. The calculation includes: rent, accommodation, lunch & coffee breaks, supplies, transportation: **Year 1: 7,000 USD** • 1 workshop: 30 pax x 3 days: 1/ Analysis of principal environmental conflicts at level local, involving selected sectors **Year 2: 141,485 USD** • 7 workshops: 80 pax x 3 days: 1/ Evaluation of the level of degradation (threats, vulnerabilities, current and potential impacts) in selected ecosystems, 2/ Identification of measures of reduction of impacts under different scenarios (forests, SLM demonstration polygons, PAs, fisheries establishments), 3/ Workshops for identification and design of nature tourism products in the selected sites, 4/ Analysis of the current status and needs of information for decision-making (flows of information, users, sources) at local local and definition of indicators for their measurement 5/ Workshop on case study analysis of international experiences of tourism activities linked to the private sector in support of conservation, 6/ Design of a system for monitoring of tendencies in conditions in the priority ecosystems and key sectors, 7/ workshop of lessons learned • 5 workshops: 40 pax x 3 days: Workshopfor the elaboration and proposal of Models of Municipal Environmental Planning (MOA) (1 workshop per province) **Year 3: 140,000 USD** • 5 workshops: 80 pax x 3 days 1/ Identification of criteria for the evaluation of the application of economic-environmental incentives in selected sectors and activities, 2/ Analysis of the effectiveness of economic-environmental incentives in selected sectors and activities, 3/ Analysis of the effectiveness of incentivos and strategies and management based on the results of monitoring of key indicators in key ecosystems and sectors, 4/ Analysis of the viability of selected economic-financial instruments in relation to the incorporation of economic valuation of ecosystem goods and services in selected production sectors and conservation activities (SNAP), 5/ Workshop of lessons learned, • 4 workshop: 40 pax x 3 days: 1/ Application of the capacity development strategy on issues of interest to the project, in the target sectors and with key territorial actors 2/ Design of the uses of the information system for decision-making at local level 3/ Production of technical packages for decision-making at local level 4/ Compilation of information at local level for the elaboration of the database and repository of information on issues related to the project. **Year 4: 140,000 USD** • 5 workshops: 80 pax x 3 days: 1/ Validation at local scale of cartographic information on the intervention sites, 2/ Monitoring of indicators for the measurement of the effectiveness of decision-making at local level, 3/ Meeting to exchange technical criteria between local specialists, for the analysis of intersector platforms for selection of conflicts related to the economic value of los ecosystem goods and services, 4/ Workshops for loca validation of the adjusted EIA methodology, 5/ Workshop on lessons learned, • 4 workshop: 40 pax x 3 days: 1/ Meetings on proposals for the updating of mechanisms for conflict resolution between intersector platforms identified at level local, 2/ Workshop for socialization of final results of proposals for conflict resolution mechanisms, 3/ Meetings for proposals of the incorporation of MOA in the physical/natural component of Municipal Territorial Planning Schemes, 4/

#	Atlas Code		Total per budget note	Explanation
				Updating of management plans for protected areas based on the economic valuation of ecosystem goods and services **Year 5: 145,000 USD** • 5 workshops: 80 pax x 3 days: Updating of programmes of agricultural, forestry and fisheties management based on the results of economic valuation of ecosystem goods and services and identified environmental impacts, evaluation of the effectiveness of the information system with key actors at local level, 5/ Strengthening of capacities at local level for the application of an information system for decision-making. • 3 workshop: 30 pax x 3 days: 1/ Pre-feasibility evaluations of the application of measures for the reduction of impacts in the agriculture, forestry and fisheries sectors. **Year 6: 145,000 USD** • 6 workshops: 80 pax x 3 days: 1/ Workshops for presentacion of results in selected provinces and key sectors (Pinar del Río, Matanzas, Villa Clara, Las Tunas and Holguín) 2/ Workshop for identification of potential sites for the replication of good practices. • 1 workshop: 40 pax x 3 days: 1/ Monitoring of sustainability indicators in production sectors.
36	72300	Materials & Goods -	285,000	Materials and goods for logistical support needed at local level in pilots of economic and financial tools and instruments, and instruments for decision-making, solution of environmental conflicts, monitoring of ecosystem conditions and the application of best practices to reduce environmental impacts on ecosystem services associated with production sectors and conservation activities, and to generate environmental benefits. Includes: office materials in support of working groups and activities under component 3; work clothes, tools for agricultural and forestry work, equipment for diving and ecosystem monitoring; reagents for analysis of laboratory samples, GPS equipment, inputs and accessories for installation of fishing gear, equipment for protection against forest fires. Includes: computer table, filing cabinets, whiteboards, projection screen, power bar and extension cables, tables, chairs; portable meteorological station, chainsaw and helmet, knapsack sprayer, digital balance, 10´´ core borer, rechargable batteries, binoculars, protective clothing, camping equipment, GPS, hypsometer, satellite images, waterproof notebooks, water analysis kit, wheelbarrows **Year 1: 5,000; Year 2: 40,000; Year 3: 50,000; Year 4: 60,000; Year 5: 60,000; Year 6: 70,000**
37	74200	Audio Visual&Print Prod Costs	221,125	Publication of pamphlets, other promotional materials, and audiovisual materials in support of local level pilots of economic and financial tools and instruments, and instruments for decision-making, solution of environmental conflicts, monitoring of ecosystem conditions and the application of best practices to reduce environmental impacts on ecosystem services associated with production sectors and conservation activities, and to generate environmental benefits.
38	74500	Miscellaneous Expenses 74500	162,050	Miscellaneous costs including bank costs, insurance, logistical support in relation to Component 3.
39	73300	Rental & Maint of Info Tech Eq 73300	37,000	Maintenance of information and technology equipment, software licences related to the processing of satellite images, processing of carbón data and updating of satellite images in support of Component 3
			4,562,079	
Project Management				

#	Atlas Code		Total per budget note	Explanation
40	72500	Supplies	13,000	Office accesories and inputs (paper, pens, folders, toners and other supplies)
41	73400	Rental & Maint of Other Equip	41,000	Fuel, lubricants, spare parts, insurance.
42	72100	Contractual Services-Companies	22,919	Contracting of services for national events and field visits related to project issues, transport, lodging etc, contracting of services for the editing and design of publications, and thematic advice on project issues.
43	71600	Travel	24,200	Tickets and DSA for national and international Travel for exchanges of experiences and lessons with other similar projects, courses, training, workshops, participation in scientific events on issues related to the project. The calculation includes: air tickets, DSA, inscriptions: **Year 1: 5,000** , 1 trip to Latin America, Training Course on ecosystem service conceptual frameworks and practical assessment tools, for 5 people for 5 days. **Year 2: 5,000** , 1 trip to Latin America, Iberoamerican Congress on Development and Environment, for 5 people for 5 days, **Year 3: 5,000** , 1 trip to Europe, Conference of the International Society for Ecological Economics – ISEE 2020, for 5 people for 5 days. **Year 4: 5,000** , 1 trip to Europe, International Congress on Marine PAs, for 2 people for 5 days. **Year 5: 2,200** , 1 trip to Europe, to Conference of the International Society for Ecological Economics – ISEE 2022, for 1 persona for 5 days. **Year 6: 2,000** 1 trip to Latin America, Congress of the Mesoamerican Society of Ecological Economy 2023, for 2 people for 5 days
44	72800	Information Technology Equipmt	19,000	Purchase of Information Technology Equipment, accesories and inputs for the development of the project management activities such as: Personal Computers, Laptop, Back-Up, External Hard Drives 1 TB and 2TB, USB flash, MonitorTV, Datashow, Printers, Digital Camera. **Year 1: 2,000; Year 2: 6,000; Year 3: 6,000; Year 4: 4,000; Year 5: 3,000; Year 6: 2,000**
45	72200	Equipment and Furniture	45,000	Transport (vehicles and motorcycles), furniture and air conditioning **Year 1: 0; Year 2: 35,000; Year 3: 3,000; Year 4: 3,000; Year 5: 2,000: Year 6: 2,000:**
46	71200	International Consultants	61,000	Mid-Term Review and Final Evaluation.
47	72400	Communic & Audio Visual Equip	14,595	Audiovisual and Communication equipment and associated costs in support of tasks related to the promotion of the Project and its results.
48	75700	Training, Workshops and Confer	45,813	**Year 1: 25,000** (2 workshops: 80 pax x 3 days): Inception workshop and workshop on lessons learned. **Year 2: 4,000** (1 workshop: 15 pax x 3 days): coordinator workshops **Year 3: 4,000** (1 workshop: 15 pax x 3 days): coordinator workshops **Year 4: 4,000** (1 workshop: 15 pax x 3 days): coordinator workshops **Year 5: 4,000** (1 workshop: 15 pax x 3 days): coordinator workshops **Year 6: 4,813** (1 workshop: 15 pax x 3 days): coordinator workshops
49	72300	Materials & Goods	11,500	Materials and goods for logistical support needed by the PMU, as well as national institutions involved in the Project, in accordance with their resource needs. Computer tables, filing cabinets, whiteboards, projection screen, power bar and extension cables, tables, chairs.
50	74200	Audio Visual&Print Prod Costs	11,180	Publication of leaflets, promotional materials and audiovisual materiales in support of education, training and promotion of the objectives and goals of the project.
51	74500	Miscellaneous Expenses	8,000	Miscellaneous ítems that arise during the life of the Project in support of its objectives and goals.

#	Atlas Code		Total per budget note	Explanation
52	74100	Professional Service	41,000	Audits and evaluations: mid term and final.
53	73300	Rental & Maint of Info Tech Eq	3,000	Maintenance of information and technology equipment in support of the implementation of the Project.
54	74596	64397/74596 Services to projects – Co staff and GOE for CO	95,000	Estimated UNDP Direct Project Service/Cost recovery charges to UNDP for executing services. In accordance with GEF Council requirements, the costs of these services will be part of the executing entity's Project Management Cost allocation identified in the project budget. DPS costs will be charged at the end of each year based on the UNDP Universal Price List (UPL) or the actual corresponding service cost. The amounts here are estimations based on the services indicated, however as part of annual project operational planning the DPS to be requested during the calendar year will be defined and the amount included in the yearly project management budgets and will be charged based on actual services provided at the end of that year.
			456,207	

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2018

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	400.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	400.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	200.00
	C2. TARGETED SCENARIC	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	2,100.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	6,500.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	5,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	10,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	1,050.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72500	Supplies	50.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	100.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	6,500.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	100.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	2,616.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	1,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	1,500.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	25,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	6,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	1,000.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,000.00
TOTAL									**90,516.00**
GRAND TOTAL									**90,516.00**

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2019

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	50,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	27,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	15,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	5,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	3,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	60,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	23,280.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	10,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	5,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	19,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	241,373.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	25,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	30,000.00
	C2. TARGETED SCENARIO	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	15,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	16,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	30,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	72,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	15,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	85,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	25,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	46,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	25,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	80,500.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	55,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	75,000.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	9,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	30,000.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2019

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	40,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	60,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	47,500.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	100,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	28,324.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	251,200.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	20,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	141,485.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	61,081.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	110,000.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	3,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	3,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	2,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	7,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	35,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	5,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,500.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	4,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	1,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	2,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	4,000.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	20,200.00
TOTAL									**2,154,443.00**
GRAND TOTAL									**2,154,443.00**

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2020

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	71200	International Consultants	60,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	150,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	15,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	26,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	25,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	47,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	27,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	5,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	3,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,984.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	3,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	10,620.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	18,000.00
	C2. TARGETED SCENARIO	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72500	Supplies	15,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	85,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	46,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	24,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	55,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	30,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	95,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	20,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	75,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	30,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	72,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	25,000.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	100,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	40,000.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2020

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	50,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	190,855.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	28,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	60,081.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	140,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	36,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	8,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	50,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	25,000.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	3,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	20,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	2,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	3,866.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	5,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,500.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	500.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	4,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	2,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	4,000.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	30,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	2,000.00
				CUB-CNAP	62000	GEFTrustee	74100	Professional Services	10,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	7,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	2,000.00
TOTAL									**2,032,406.00**

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

GRAND TOTAL	**2,032,406.00**

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2021

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	150,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	5,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	44,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	11,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	10,360.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	25,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	50,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	21,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	5,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	26,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,560.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	10,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	2,000.00
	C2. TARGETED SCENARIC	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	35,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	75,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	72,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	25,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	15,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	95,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	55,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	46,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	25,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	20,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	20,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	85,000.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	60,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	30,000.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2021

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	50,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	140,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	35,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	20,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	100,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	7,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	25,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companies	60,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	180,855.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companies	4,786.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	7,000.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	21,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	500.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	4,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,700.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	3,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	5,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	2,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	4,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	2,000.00
				CUB-CNAP	62000	GEFTrustee	74100	Professional Services	10,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	2,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	2,000.00
TOTAL									**1,949,761.00**
GRAND TOTAL									**1,949,761.00**

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2022

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	42,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	5,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	24,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	2,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	10,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	15,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	40,030.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,560.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	10,180.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	10,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	15,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companies	19,000.00
	C2. TARGETED SCENARIC	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	20,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	81,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companies	46,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	20,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	15,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	72,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	55,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	25,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	75,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	25,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	24,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	33,000.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companies	60,000.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2022

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	20,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	38,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	30,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	38,450.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	60,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	60,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	145,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	23,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	95,000.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	7,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	2,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	3,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	2,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	3,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	1,000.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	10,500.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	3,866.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	2,200.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	500.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	3,180.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	4,000.00
				CUB-CNAP	62000	GEFTrustee	74100	Professional Services	10,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,500.00
TOTAL									1,557,966.00
GRAND TOTAL									1,557,966.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2023

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	10,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	5,120.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	18,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	6,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	40,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,280.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	41,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	10,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	19,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	1,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	13,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,000.00
	C2. TARGETED SCENARIO	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	75,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	15,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	20,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	15,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	15,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	20,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	22,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	72,000.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	16,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	75,200.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	16,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	20,947.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	18,450.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,324.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	110,000.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2023

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	50,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	45,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	70,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	3,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	110,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	145,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	20,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	60,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	9,550.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	25,000.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	1,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	2,000.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	2,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	3,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	4,785.00
				CUB-CNAP	62000	GEFTrustee	72200	Equipment and Furniture	2,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	4,813.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	7,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	1,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	2,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	500.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	9,500.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	40,000.00
				CUB-CNAP	62000	GEFTrustee	74100	Professional Services	11,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	2,000.00
TOTAL									**1,350,469.00**
GRAND TOTAL									**1,350,469.00**

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2024

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
00098961 ECOVALOR FULL SIZE	C1. LEGAL,POLICY,INSTIT	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	2,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	5,000.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	2,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	18,000.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	7,944.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	140.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	10,600.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	1,000.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	4,800.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	23,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	2,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	25,000.00
	C2. TARGETED SCENARIC	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipmt	27,700.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	20,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confer	23,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	11,900.00
				CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	4,100.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	5,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	10,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	4,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	20,000.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	2,300.00
				CUB-CNAP	62000	GEFTrustee	72500	Supplies	6,950.00
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72100	Contractual Services-Companie	10,100.00
				CUB-CNAP	62000	GEFTrustee	74200	Audio Visual&Print Prod Costs	4,225.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	5,000.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	4,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	15,000.00

Annual Work Plan

Cuba - Havana

Project: 00094887

Project Title: ECOVALOR

Year: 2024

Output	Key Activities	Timeframe		Responsible Party	Planned Budget				
		Start	End		Fund	Donor	Budget Descr		Amount US$
	C3. PILOT EXPERIENCES	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	72500	Supplies	9,950.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	10,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	85,000.00
				CUB-CNAP	62000	GEFTrustee	73400	Rental & Maint of Other Equip	19,900.00
				CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	5,000.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	15,000.00
				CUB-CNAP	62000	GEFTrustee	75700	Training, Workshops and Confe	7,000.00
	PMU	30/9/2018	31/12/2024	CUB-CNAP	62000	GEFTrustee	73300	Rental & Maint of Info Tech Eq	1,000.00
				CUB-CNAP	62000	GEFTrustee	71200	International Consultants	1,000.00
				CUB-CNAP	62000	GEFTrustee	72400	Communic & Audio Visual Equip	3,095.00
				CUB-CNAP	62000	GEFTrustee	71600	Travel	5,000.00
				CUB-CNAP	62000	GEFTrustee	72300	Materials & Goods	2,500.00
				UNDP	62000	GEFTrustee	74500	Miscellaneous Expenses	2,800.00
				CUB-CNAP	62000	GEFTrustee	74500	Miscellaneous Expenses	800.00
				CUB-CNAP	62000	GEFTrustee	72800	Information Technology Equipm	2,000.00
TOTAL									**444,804.00**
GRAND TOTAL									**444,804.00**

XI. LEGAL CONTEXT

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

176. This project will be implemented by National Centre for Protected Areas ("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.

177. The UNDP Resident Representative in Havana, Cuba is duly authorized in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP/GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes:

a) Revision of, or addition to, any of the annexes to the Project Document;

b) Revisions, which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;

c) Mandatory annual revisions which re-phase the delivery of approved project data or improved expert or other costs due to inflation or take into account agency expenditure flexibility; and

d) Inclusion of additional annexes and attachments only as set out here in this project document.

178. This document together with the Country Programme Action Plan signed by the Government and UNDP which is incorporated by reference constitute together a Project Document as referred to in the SBAA (or other appropriate governing agreement) and all Country Programme Action Plan provisions apply to this document. Consistent with the Article III of the Standard Basic Assistance Agreement, 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.

179. Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XII. RISK MANAGEMENT

Consistent with the Article III of the Standard Basic Assistance Agreement (SBAA) between the Government of Cuba and UNDP, signed on 17 May, 1975, 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.

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.

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).

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.

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.

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.

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.

In the event that an investigation is required, UNDP has the obligation to conduct investigations relating to any aspect of UNDP projects and programmes. 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.

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.

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.

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.

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.

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.

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.

XIII. SUMMARY OF PROJECT DESIGN AND IMPLEMENTATION CYCLE IN ACCORDANCE WITH THE RAPTA FRAMEWORK

RAPTA stage and expected outcomes	Stage in project cycle	Conclusions
Scoping:		
A clear statement of the aspirations and goals of the project	-Initial recognition of the need for the project by CITMA in 2011 -Identification of alignment between project idea, national policies and priorities and GEF objectives and priorities -Confirmation of project objective in PIF -Preliminary formulation of quantitative targets in PIF	-Difficulties experienced by the Government of Cuba in quantifying the damage caused by hurricanes led to recognition of the need to develop capacities for economic valuation of ecosystem goods and services and environmental impacts as a guide to decision-making. -Understandings of the nature of the sectors, threats and opportunities associated with global environmental values led to recognition of the need for an integrated inter-sector landscape-wide approach
A preliminary understanding of the project area, its problems and potential opportunities within national and regional contexts	-Consultations with regional teams of CITMA and other entities, local authorities and community organizations	Target localities identified on the basis of opportunities they present for demonstrating how the incorporation of the results of economic valuations into decision-making can generate global environmental benefits (existence of quantifiable and addressable threats to global environmental values)
A list of potential stakeholders to consult or include, and possible governance structures	-Initial identification of stakeholders during PIF formulation -Definition of lead institution and roles of others during PIF formulation -Definition of implementation arrangements during PPG phase	Definition of: -The National Centre for Protected Areas (CNAP) as the lead institution of the project -Extensive participation by the lead institutions of each of the target sectors in which decision-making will be influenced by the results of economic valuations -Scientific and academic institutions capable of generating information on the systems to be targeted by the project (ecosystems, threats) -Local authorities and community organizations with roles in local planning and environmental governance -Productive organizations at local level capable of implementing proposed modifications to management practices in response to improved knowledge and decision-making
An understanding of relevant past and current interventions in the project area and how this project might complement or replace	-Initial baseline analysis during PIF, updated and detailed during PPG phase	-Major baseline investments by Government (FNMA, FONADEF, PNMCS) presenting opportunities for improved impact as a result of orientation based on economic valuation of ecosystem goods and services -Major portfolio of past and ongoing projects (GEF and others) resulting in major resource of information and lessons on integrated landscape-wide approaches to addressing environmental issues and on specific resource management and conservation practices in

RAPTA stage and expected outcomes	Stage in project cycle	Conclusions
them		the target sectors
An understanding of the resources required to apply RAPTA.	Outline budget definition during PIF formulation (including definition of PPG requirements) and detailed budget formulation for implementation phase	Resource needs defined taking into account: -Conceptual complexity -Need for multi-sector landscape wide approach -Need for geographical spread to maximise impact and potential for demonstration and replication -Need for investments in pilots of resource management practices capable of generating global environmental benefits -Existence of cofinanced human and technical resources
Multi-Stakeholder Engagement and Governance		
Understanding of stakeholders	Stakeholder workshops during PIF formulation and PPG phase	Flows of ecosystems goods and services mapped, resulting in confirmation of stakeholders sectors generating and receiving ecosystem services and environmental impacts, and therefore potential participants in mechanisms for internalizing the results of economic valuations, and targets for changes in management practices Requirements identified for governance and monitoring to ensure that decisions and management practices oriented by the results of economic valuations are effective and sustainable.
Governance structure	Confirmation of implementation and governance arrangements, during PPG phase	Proposals generated during PIF stage (see above) confirmed and detailed.
Theory of Change		
A sharper focus on project goals: a set of hypotheses about how the goal will be achieved, represented as impact pathways of linked activities, outputs, outcomes and impacts, plus assumptions about their relationships	-Initial project logic defined during PIF formulation (threats, barriers and corresponding outputs and results required for achievement of the objective). -Flow chart demonstrating project logic (Figure 5). -Theory of change diagram (Figure 6) -Results framework setting out vertical logic, indicators, targets and assumptions (Appendix VI) -Explanation of key strategies (Section III) -Textual explanation of results,	The theory of change recognises the need for actions at multiple levels ranging from the individual management unit (e.g. farm, forest, protected areas) through the decision maker and planner at the level of farm, PA, local government or central government, to the national level legal and policy frameworks, and the nationwide replication domain for the results of the pilot experiences. It also recognises the interrelations between socioeconomic and biophysical factors, and between the delivery of, on the one hand, local and national benefits in terms of livelihoods and sustainable productivity, and on the other global environmental benefits in terms of biodiversity, sustainable land management and carbon capture.

RAPTA stage and expected outcomes	Stage in project cycle	Conclusions
	outputs and activities (Section IV).	
System Description		
Descriptions of the systems of interest reflecting the collective knowledge of different stakeholders, highlight system interconnections and their potential influence on the consequences of future changes	Schematic mapping during the PPG phase of the spatial configuration of ecosystems and of flows of ecosystem goods and services (Figure 4). Site-specific description of flows of ecosystem goods and services in each target locality.	Flows of ecosystem services in the target localities include: -Global environmental impacts, reaching outside of the system, affecting globally important biodiversity, ecosystem functions and carbon stocks -Internal flows of impacts in which productive, extractive or other activities by local stakeholders degraded the natural capital on which they themselves depend. -External impacts on the condition and resilience of the system, stemming from climate change, macroeconomic factors, socioeconomic and demographic pressures, and national policies.
Foundation for assessing resilience and opportunities for adaptation and transformation in the System Assessment component	Schematic mapping during the PPG phase of the spatial configuration of ecosystems and of flows of ecosystem goods and services (Figure 4).	The mapping of flows of ecosystem goods and services allows the identification of "entry points" in which the opportunity exists for action, and of needs for collaboration or transactions between different stakeholder groups generating and/or affected by the flows.
System Assessment		
A system assessment that identifies potential risks or points of no return, and the key controlling influences over likely future shocks or changes	Characterisation of target ecosystems, their functioning and resilience during the PPG phase.	-The additional stresses imposed by climate change on coastal and marine ecosystems may imply that, while the GEF scenario will be better than the baseline scenario, it will not necessarily result in stability of the conditions of the target ecosystems and their capacities to generate ecosystem services. A continuous and dynamic approach to adaptation at a whole-landscape level will be required in order to achieve social and environmental resilience and the maintenance of flows of ecosystem goods and services. -The responsiveness of terrestrial ecosystems, and their tolerance limits in relation to stresses and shocks (including the effects of global climate change), are likely to be greater, with a broader range of management and species options available: it is therefore likely that under the GEF scenario, the condition of terrestrial ecosystems and their capacity to generate ecosystem services will be improved not only relative to the without project scenario but also in absolute terms.
Identified opportunities for adaptation or transformation, and their benefits and risks.		
Options and Pathways		
Options for intervention developed and arranged	-Identification of corrective actions in Section III (Strategy) of the	See Table 5 and Section IV.

RAPTA stage and expected outcomes	Stage in project cycle	Conclusions
into a provisional order for implementation	Project Document -Definition of activities required to achieve outputs (Section IV) of the Project Document	
Definition of how benefits and costs are distributed among stakeholders	-Mapping of flows of environmental impacts in Figure 4 -Stakeholder analysis in Section VI	The mapping presented in Figure 4 shows how flows of environmental goods, services and impacts link stakeholders across the whole of each of the target landscapes. The different types of flows identified (see above) result in a range of scenarios of cost and benefit distribution: - The local application of measures to counter the generation of negative impacts on global environmental values (e.g. climate change, existence value of biodiversity) may imply direct or opportunity costs for local resource managers, although the proposed economic valuation mechanisms should allow these costs to be offset by compensation or incentives - When negative impacts on global environmental values also affect national and local interests, corrective measures may have net neutral or positive benefits for national and local stakeholders (for example by simultaneously maintaining the productive and/or resilience benefits of the ecosystems for those applying the measures) - The same situation applies with the local application of measures to counter the generation of negative impacts on national interests or those of other stakeholders in the landscapes (for example by conserving and improving the management of watershed forests in order to maintain upstream-downstream flows of water services) - Even when net costs are neutral in the long term, there may be a significant delay in initial cost outlays (for example in ecosystem restoration) being recuperated, and the provision of incentives in the short term will help to compensate for this delay - Schemes for compensating flows of ecosystem services may improve the equity of benefit distribution: for example the introduction or rationalization of schemes for water payment may imply increased net costs in the short term to water consumers, which would be redistributed to stakeholders upstream to incentivize improved watershed management. In both cases the net outcome in the long term will normally be neutral: payments for water will help to ensure consumers' access to the service, thereby avoiding them in the long term having to incur the costs associated with water scarcity; while payments to watershed managers would normally reflect the real costs of their management activities.
Development of criteria that indicate when	Characterisation of ecosystem conditions during PPG stage,	The application of corrective measures will be conditional in each target locality to the ecosystem conditions and stakeholder capacities. These are reflected in the management

RAPTA stage and expected outcomes	Stage in project cycle	Conclusions
conditions are right for implementing particular interventions	formulation of monitoring and evaluation system and indicators, and work plan	and operational plans of each target locality. The project will be subject to adaptive management guided by the values of the SMART indicators contained in the results framework; these will be refined and adjusted as necessary on a site-specific basis during project implementation.
Monitoring & Assessment, Learning, Knowledge Management		
Identification of the objectives for a Learning plan linked to the Theory of Change and impact pathways	Development of provisions for project monitoring and knowledge management during PPG stage.	See Sections VI and VII.
Design of a plan for collating information, knowledge management and communication		
Selection of the tools and approaches that best support the Learning plan in the local context		
Fully resource the Learning component throughout the RAPTA pass.		

XIV. MANDATORY ANNEXES

A. Multi Year Work Plan:

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Project inception workshop					X																						
Formulation of monitoring plan				X	X																						
Measurement of outstanding baseline values					X	X	X																				
Updating and organization of indicator values in preparation for external review														X													
Mid Term Evaluation															X												
Updating and organization of indicator values in preparation for external review																										X	
Final evaluation																											X
Financial audits							X				X				X				X				X				X
1.1 Proposals for inclusion of economic valuation results into policies, strategies, plans and regulations	Analysis of current policy, legal, regulatory and institutional frameworks relating to environmental and productive sector issues	Coordination and conciliation with BIOFIN initiative		X	X	X	X																				
		Compilation of documents relating to policy, legal, regulatory and institutional frameworks that directly or indirectly incorporate considerations on economic valuation of ecosystem goods and services.		X	X	X	X	X	X	X	X																
		Analysis of information and identification of gaps in the policy, legal, regulatory and institutional framework related to the economic evaluation of ecosystem goods and services and the use and conservation of BD.		X	X	X	X	X	X	X	X	X	X	X	X												
		Evaluation of the effectiveness of decisión-making, considering documents relating to the policy, legal, regulatory and institutional										X	X	X	X	X	X	X	X	X	X	X	X				

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		framework that may directly or indirectly incorporate considerations of economic valuation of ecosystem goods and services.																									
		Generation of analysis document of policy, legal, regulatory and institutional framework related to the economic evaluation of environmental goods						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Meetings or workshops for the exchange of technical criteria between national, sector and territorial specialists, for the analysis of the implementation of policy, legal, regulatory and institutional framework related to the economic evaluation of environmental goods and services						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		National workshop for the socialisation of the results of the analysis									X				X				X				X				
1.2 Strengthened inter-sector platforms for the negotation of environmental issues	Inclusion of economic valuations in processes of inter-sector conciliation and dialogue (plans, programmes and strategies).	Meetings or workshops for the identification of sector interests in the inclusion of economic valuations and the use and conservation of biodiversity (including analyses of conflicts in decision-making).		X	X	X	X	X	X	X	X																
		Meeting of experts at national, sector and territorial levels for the analysis of options for solutions to conflicts.			X		X		X		X																
		Socialisation workshop of the final results of proposals for conflict resolution mechanisms.						X				X															

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.3 Strengthened entities for the analysis of policy implications of the results of valuations of ecosystem goods and services	Strengthening of institutional capacities.	Identification of needs for strengthening of institutional capacities related to the conomic valuation of ecosystem goods and services		X	X	X	X	X	X	X	X																
		Procurement of equipment and inputs identified by the institutions						X	X	X	X	X	X	X	X												
		Distribution of equipment and inputs identified by the institutions in accordance with the activities to be carried out by them								X	X	X	X	X	X	X	X	X	X	X	X						
1.4 Proposals of methodological protocols and/or legal instruments for the incorporation of ecosystem valuation into key processes and procedures	Review of methodologies and norms for the inclusion of economic valuation of ecosystem goods and services in economic and financial instruments	Identification and analysis of the effectiveness of existing economic and financial instruments at national and sector levels related to productive activities and sectors (conservation, spatial planning, EIA, environmental insurance, agriculture, forestry, fisheries, tourism and hydrocarbons)		X	X	X	X	X	X	X	X																
		Review and analysis of Joint Resolution #1 (MFP MEP Regulation on FONADEF)		X	X	X	X	X	X	X	X																
		Review and analysis of procedures of FNMA		X	X	X	X	X	X	X	X																
		Review and analysis of the manual of procedures of the PNMCS		X	X	X	X	X	X	X	X																
		Technical meetings on proposals for the modification or creation of economic-financial and environmental mechanisms that incorporate the economic valuation of ecosystem goods and services.						X	X	X	X	X	X	X	X												

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		Formulation and updating of methodological documents on the application of economic-financial and environmental instruments that incorporate the economic valuation of ecosystem goods and services.		X	X	X	X																				
		Technical consultations with responsible institutions on the incorporation of proposed modifications to economic-financial and environmental instruments in methodologies, procedures, norms etc.		X	X	X	X																				
		Workshop for the socialization of the results of consultations						X	X																		
	Exchanges of experiences and lessons learned at international level on the application of economic-financial and environmental instruments	Identification of successful experiences at international level that incorporate the economic valuation of ecosystem goods and services in the application of economic-financial and environmental instruments		X	x	x	x	x	x	x	x																
		Interchange of successful experiences and lessons learned at international level						x	x	x	x					x	x	x	x								
		Participation in national and international events related to the incorporation of the economic valuation of ecosystem goods and services in the application of economic-financial and environmental instruments		X	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
	Review of environmental accounts	Analysis of institutional capacities for the development of environmental accounting schemes at national and business levels.		X	X	X	X	X	X	X	X																

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		Meetings for analysis of the possibilities of applying environmental accounting systems at national and business levels.		X	X	X	X	X	X	X	X																
		Formulation of proposals of methodological designs for environmental accounting systems at national and business levels.						X	X	X	X	X	X	X	X												
		Workshop for socializing proposals of methodological designs for environmental accounting systems at national and business levels.														X	X	X	X								
1.5 Strategies and programmes for training on incorporation of economic valuation into decision making	Strengthening of human capacities.	Analysis of capacity development needs in the target audience in relation to the incorporation of economic valuations of ecosystem goods and services in decision-making		X	X	X	X																				
		Design of a strategy (plan) and programmes for training		X	X	X	X																				
		Implementation of training strategy and plan		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Participation in and development of national and international events related to economic valuation		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Evaluation and systematization of the application of the capacity development strategy and plan					X				X				X				X				X				X
2.1 Mechanisms for the management of and access to information	Establishment of a functioning informatrion system for decision-making (SINDE)	Workshop for assessment of current status and needs for information for decision-making among target groups at different levels, needs for infrastructure and needs for capacities.		X	X	X	X																				

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		Design and provision of infrastructure for information system at different levels.		X	X	X	X	X	X	X	X																
		Analysis of information flows to be incorporated into the database of the system						X	X	X	X																
		Establishment of technical files for decision-making.						X	X	X	X																
		Definition of indicators for measuring the effectiveness of decision-making.						X	X	X	X																
		Formulation of compendia and assessments of information available on economic valuation of ecosystem goods and services, economic analyses of environmental impacts, economic valuation of good practices and scenario analysis		X	X	X	X	X	X	X	X																
		Formulation of alphanumeric and spatial database and information repository						X	X	X	X	X	X	X	X												
		Analysis and digital processing of images of the intervention areas.						X	X	X	X	X	X	X	X	X	X	X	X								
		Development of thematic mapping needed for the assessments of each intervention área or other tools that are needed (MOA's, BD monitoring, scenario analysis, etc.)						X	X	X	X	X	X	X	X	X	X	X	X								
		Information analysis and modelling of different scenarios and decisions.						X	X	X	X	X	X	X	X	X	X	X	X								
		Implementation of the outputs resulting from the information system										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Establishment/updating of indicators (of										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		processes/management for the measurement of the effectiveness of decision-making based on the information management systems (survey)																									
2.2 Methodological tools in support of Targeted Scenario Analysis (TSA)	Proposals of methodological instruments for scenario analysis that incorporate economic valuation of ecosystem goods and services	Development of methodology for the formulation and analysis of scenarios (TSA) related to the of ecosystem goods and services and decision making .		X	X	X	X																				
		Formulation of methodological proposal for the characterization of ecosystem goods and services in the intervention areas		X	X	X	X																				
		Validation of methodology for the characterization of environmental godos and services in the intervention areas based on the results of information collection and the monitoring of the selected ecosystems				X	X	X	X	X	X																
		Formulation of glossary of terms on issues covered by the project		X	X	X	X																				
		Development of methodology for the evaluation of forest degradation		X	X	X	X																				
		Development of methodology for the economic valuation of damages caused by large forest fires		X	X	X	X																				
		Development of methodology for the economic valuation of ecosystem goods and services in productive sectors and selected ecosystems		X	X	X	X																				
		Development of methodology for		X	X	X	X	X	X	X	X																

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		the economic valuation of impacts on ecosystem goods and services of selected ecosystems																									
		Development of methodology for the economic valuation of sustainable productive practices in selected sectors						X	X	X	X																
		Development of methodology for th design, application and control of economic-financial instruments that include the value of ecosystem goods and services in policies, pl;ans, programmes and production sectors						X	X	X	X	X	X	X	X												
		Formulation of a general proposal for a financial mechanism for the SNAP		X	X	X	X	X	X	X	X																
		Formulation of a methodology de economic valuation of measures of mitigation and adaptation to climate change baed on the economic valuation of ecosystem goods and services in selected ecosystems										X	X	X	X												
		Methodology for the elaboration and analysis of strategies for decision making related to the use and conservation of biodiversity.										X	X	X	X	X	X	X	X								
		Methodological procedure for the spatial analysis of ecosystem goods and services in function of decision making under different scenarios. (SINDE)		X	X	X	X	X	X	X	X																
		Formulation of a methodology for socio-environmental analysis linked to the use and						X	X	X	X	X	X	X	X												

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		conservation of BD																									
	Review and adjustment of methodological instruments for scenario analysis that incorporate economic valuation of ecosystem goods and services.	Technical workshops for the review and adjustment of methodological instruments for scenario analysis that incorporate the economic valuation of ecosystem goods and services.						X	X	X	X																
		Adjustment of methodologies and preparation of final documents						X	X	X	X																
		Presentation of final documents of methodologies associated with scenario analysis that incorporate the economic valuation de ecosystem goods and services.						X	X	X	X																
2.3 Results of economic valuations to address priority issues and threats in the target sectors	Development of economic valuation studies of ecosystem goods and services in selected production sectors	Economic valuation studies of ecosystem goods and services and environmental impacts associated with tourism activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of ecosystem goods and services and environmental impacts associated with agriculture and livestock activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of ecosystem goods and services and environmental impacts associated with forestry activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of ecosystem goods and services and environmental impacts associated with fishing activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of ecosystem goods and services and environmental impacts associated with hydrocarbon						X	X	X	X	X	X	X	X	X	X	X	X								

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		activity																									
		Presentation of results of studies of economic valuation de ecosystem goods and services to key actors in production sectors at national and territorial levels								X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	Development of economic valuation studies of measures for the reduction of impacts on ecosystem goods and services associated with key production sectors, under different scenarios	Economic valuation studies of measures for the reduction of impacts on ecosystem goods and services associated with tourism activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of measures for the reduction of impacts on ecosystem goods and services associated with agriculture and livestock activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of measures for the reduction of impacts on ecosystem goods and services associated with forestry activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of measures for the reduction of impacts on ecosystem goods and services associated with fishing activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Economic valuation studies of measures for the reduction of impacts on ecosystem goods and services associated with hydrocarbon activity						X	X	X	X	X	X	X	X	X	X	X	X								
		Presentation of results of studies of economic valuation of measures for the reduction of impacts on ecosystem goods and services to key actors in production sectors at national and territorial levels								X	X	X	X	X	X	X	X	X	X	X								

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	Studies of forest degradation and the evolution of carbon reserves	Studies of forest degradation and the evolution of carbon reserves, taking into account different scenarios		X	X	X	X	X	X	X	X																
		Economic valuation studies of forest degradation and the evolution of carbon reserves, taking into account different scenarios						X	X	X	X	X	X	X	X												
		Comparative analyses of the evolution of carbon reserves and its economic implications, based on different methodologies (ExACT and the Cuban methodology)										X	X	X	X	X	X	X	X	X	X	X	X				
		Presentation of results of studies of economic valuation de forest degradation and evolution carbon reserves, to key actors in production sectors at national and territorial levels														X	X	X	X	X	X	X	X				
2.4 Communication mechanisms and awareness raising materials	Implementation of the strategy of programme for training and awareness raising at different levels	Assessment of the communication needs of the target audiences on issues related to economic valuation of ecosystem goods and services		X	X	X	X	X	X	X	X																
		Design of the strategy of programme for training and awareness raising at different levels		X	X	X	X	X	X	X	X																
		Implementation of the strategy of programme for training and awareness raising at different levels				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
	Dissemination of materials	Formulation of awareness raising materials in accordance with the needs identified for the target		X	X	X	X	X	X	X	X																

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	formulated for awareness raising	audiences																									
		Identification and design of the types of dissemination support and communication media required		X	X	X	X	X	X	X	X																
		Production of dissemination support and communication media						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Evaluation of the effectiveness of the application of communication products										X	X	X	X	X	X	X	X	X	X	X	X				
3.1 Local level platforms for information exchange and analysis	Implementation of an information system for decision making (SINDE) at local level	Assessment of the current status and needs of information for decision making (information flows, users, sources) at local level		X	X	X	X	X	X	X	X																
		Design of the information system for decision making at local level		X	X	X	X	X	X	X	X																
		Analysis of the information to be incorporated in the system database at local level				X	X	X	X	X	X	X	X	X	X	X	X	X	X								
		Strengthening of institutional capacities at local level for the application of an information system for decision making						X	X	X	X	X	X	X	X												
		Formulation of technical files for decision making at local level						X	X	X	X	X	X	X	X												
		Definition of indicators for the measurement of the effectiveness of the information system associated with decision making at local level						X	X	X	X	X	X	X	X												
		Compilation of information at local level for developing the database and repository of information on issues related to the project						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		Validation at local scale of cartographic information on the intervention areas						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Identification of a mechanism at local level for linking the alphanumeric and spatial database with emphasis on issues related to the project, and the respective metadata										X	X	X	X	X	X	X	X								
		Implementation at local level of the results of the information system for decision making										X	X	X	X	X	X	X	X	X	X	X	X				
		Monitoring of indicators for the measurement of the effectiveness of decision making at local level								X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Evaluation of the effectiveness of the information system with key actors at local level														X	X	X	X	X	X	X	X				
3.2 Strengthened local mechanisms for negotiation of environmental issues and conflicts	Inclusion of the economic valuation of ecosystem goods and services in intersector negotiation plataforms for the solution of conflicts at local level	Assessment of the principal environmental conflicts existing at local level, that involve the selected sectors		X	X	X	X																				
		Meeting for exchange of technical criteria between specialists at local level, for the analysis of intersector platforms for the selection of conflicts related to the economic value of ecosystem goods and services.		X	X	X	X																				
		Meetings for the proposals of updates to mechanisms for the solution of conflicts between intersector platforms identified at local level		X	X	X	X																				
		Meeting for dissemination of the final results of the proposals of mechanisms for the solution of				X	X	X	X	X	X																

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		conflicts between the intersector platforms identified.																									
3.3 Pilots of methodological tools for the incorporation of ecosystem valuation into local decision-making mechanisms	Integration of economic valuation of ecosystem goods and services in decision-making instruments at local level: - Environmental Impact Assessments (EIA) - Spatial Planning schemes that include MOA. - PA management plans - Sector management plans	Implementation at local level of the adjusted EIA methodology						X	X	X	X	X	X	X	X	X	X	X	X								
		Validation workshops at local level for the adjusted EIA methodology										X	X	X	X	X	X	X	X	X	X	X	X				
		Workshops and meetings for the development and proposal of municipal Environmental Planning Models (MOA)		X	X	X	X																				
		Meetings to propose the incorporation of de MOA in the physical/natural component of Municipal Spatial Planning Schemes		X	X	X	X																				
		Updating of Spatial Planning Schemes at provincial level in Matanzas						X	X	X	X	X	X														
		Updating of PA management plans on the basis of the economic valuation of ecosystem goods and services		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Updating of agricultural management plans on the basis of the economic valuation of ecosystem goods and services and the environmental impacts identified						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Development of sector management plans in the polygons that reflect the limiting fdactors in the areas and a timetable for activities in the medium and long terms.						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Updating of forest management plans on the basis of the economic valuation of ecosystem						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		goods and services and the environmental impacts identified																									
		Updating of fisheries management plans on the basis of the economic valuation of ecosystem goods and services and the environmental impacts identified						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Updating of tourism management plans on the basis of the economic valuation of ecosystem goods and services and the environmental impacts identified						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Updating of hydrocarbon management plans on the basis of the economic valuation of ecosystem goods and services and the environmental impacts identified						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
3.4 Capacities and systems for environmental monitoring	Implementation of system for monitoring tendencies in the conditions of priority ecosystems and key sectors	Assessment of the current status of the prioritized ecosystems and production sectors selected for the Project, including environmental conflicts and with special emphasis on BD values		X	X	X	X	X	X	X	X																
		Design of a system for monitoring tendencies in the conditions of priority ecosystems and key sectors		X	X	X	X	X	X																		
		Monitoring of key indicators (biological, climatics, hydrometeorological, edaphic) in priority selected ecosystems.						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Analysis of the effectiveness of incentives and management strategies based on the results of the monitoring of key indicators														X	X	X	X	X	X	X	X				

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		in key ecosystems and sectors.																									
3.5 Proposals of financial instruments	Application of economic and environmental instruments that integrate the value of ecosystem goods and services and promote the generation of multiple environmental benefits	Identification and assessment of the principal economic/financial instruments that incorporate the valuation of ecosystem goods and services, in the selected ecosystems and sectors		X	X	X	X	X	X																		
		Application of the selected economic/financial instruments in priority ecosystems and sectors, on the basis of environmental benefits						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
		Analysis of the viability of the selected economic/financial instruments in relation to the incorporation of the economic valuation of ecosystem goods and services in selected production sectors and conservation activities (SNAP)						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
3.6 Demonstrations of the productive and environmental viability of management practices	Implementation of sustainable production practices that incorpórate the economic value of ecosystem goods and services	Evaluation of the level of degradation (threats, vulnerabilities, current and potential impacts) in selected ecosystems.		X	X	X	X	X	X	X	X																
		Identification of measures for the reduction of impacts in different situations (forests, SLM demonstration polygons, protected areas, fisheries establishments)		X	X	X	X	X	X	X	X																
		Studies for economic valuation of ecosystem goods and services and environmental impacts in the selected production sectors (10 SLM polygons, 7 forestry polygons, 3 fisheries establishments and 15 protected						X	X	X	X	X	X	X	X	X	X	X	X								

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
		areas)																									
		Monitoring of sustainability indicators in productive sectors												X	X	X	X	X	X								
		Pre-feasibility evaluation of the application of measures for the reduction of impacts on selected ecosystems and sites		X	X	X	X	X	X	X	X																
		Formulation of a plan for the execution of measures for the reduction of the identified impacts		X	X	X	X	X	X	X	X																
		Execution of measures for the reduction of impacts in accordance with the plan in the forestry sector						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Execution of measures for the reduction of impacts in accordance with the plan in the agriculture and livestock sector						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Execution of measures for the reduction of impacts in accordance with the plan in the fisheries sector						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Execution of measures for the reduction of impacts in accordance with the plan in the tourism sector						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Execution of measures for the reduction of impacts in accordance with the plan in conservation activities						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		Follow-up of measures for the reduction of impacts in selected sectors (forestry, agriculture, livestock, fisheries, coastal and marine, hydrocarbons, conservation)										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Outputs	Activities		Responsible party	Y1				Y2				Y3				Y4				Y5				Y6			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
3.7 Programmes for development of technical capacities at local level for application of management and restoration options	Implementation of training strategy (plan) at local level	Application of training strategy on issues of interest to the Project, in the target sectors and with key actors in the territories		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

B. Monitoring Plan:

The Project Manager will collect results data according to the following monitoring plan.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Objective: To promote the generation of multiple environmental benefits based on integrated economic valuation of ecosystem goods and services, as a tool for decision making at different levels.	O1	Production landscapes managed to favour BD (BD indicator)	Review of land use plans and the effectiveness of their application at municipal and provincial levels	Annually	Territorial Coordinators, Component Coordinator C1	Review of plans, field inspections	Adequacy of records of production entities
	O2	Level of application of production practices that optimise flows of ecosystem goods and services, in pilot localities (SLM indicator)	Reports of production enterprises together with field inspections	Annually	Territorial Coordinators, Component Coordinator C3	Review of reports, field inspections	Adequacy of records of production entities
	O3	Area of high conservation value forests with improved protection/management (SFM indicator)	Reports of forest management entities and SERFOR, field inspections	Annually	Territorial Coordinators, Component Coordinator C3	Review of reports, field inspections	Adequacy of records of production entities
	O4	Net reduction in CO_2 emissions (SFM indicator)	Review of progress with improvements to production, land management and conservation practices	Annually	Territorial Coordinators, Component Coordinator C3	Review of reports, field inspections	Adequacy of records of production entities
Component 1: Favourable legal, institutional and policy frameworks in key sectors for the generation of global environmental benefits (BD, LD, SFM)	1.1	Number of policy, planning and strategy documents, regulatory instruments and economic and financial instruments with implications for the directions, priorities, nature, locations and environmental implications of the target sectors, that take into account the results of economic valuations	Review of policy, planning and strategy documents, regulatory instruments and incentive mechanisms	Annually	Component Coordinator C1	Review of policy, planning and strategy documents	
	1.2	Levels of human and institutional capacities strengthened for the incorporation of economic valuation of ecosystem goods and services in the institutions covering the target sectors	Records of training events and interviews with participants Review of methodological documents used by target institutions	Annually	Component Coordinator C1	Records of training events, interviews with participants, review of methodological documents	
	1.3	Effectiveness of the application of planning processes based on the results of the economic valuation of ecosystem goods and services (see explanation at end of matrix)	Review of land use plans and the effectiveness of their application at municipal and provincial levels, in consultation with local actors	Annually	Territorial Coordinators, Component Coordinator C1	Review of plans, field inspections	

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Component 2. Targeted scenario analysis guiding decision-makers on the implications of different courses of action in the target sectors that could affect natural resources and global environmental values	2.1	Level of access of decision-makers to useful and relevant information on the environmental implications of different courses of action, allowing the formulation of policies and the taking of decisions that optimizes the generation of environmental benefits	Inspection of functioning of Information system and interviews with representatives of each target institution (MEF, MFP, MINAG, MINTUR, MES, MINAL, MINEM, CITMA, ONEI, IPF, INRH, BCC, OLPP)	Annually	Component Coordinator C2	Inspection of functioning of Information system, interviews with representatives of institutions	
	2.2	Number of target actors with awarweness of and access to methodological tools for taking decisions on the basis of TSA that incorporates economic valuation of ecosystem goods and services	Interviews with target actors regarding application of methodological tools	Annually	Component Coordinator C2	Interviews with target actors	
Component 3: Pilot experiencies generating, validating and demonstrating mechanisms for the optimization and internalization of values of ecosystem goods and services in the target sectors and associated landscapes	3.1	Degree to which the results of valuations of ecosystem goods and services, and TSA, are reflected in decisions with environmental implications	Review of decisions, interviews with decision-makers in relevant institutions	Annually	Component Coordinator C3	Review of decisions, interviews with decision-makers	
	3.2	Level of financial resources delivered to producers and resource managers in the target sectors as incentives for the management and restoration of natural resources, subject to the optimization of flows of ecosystem goods and services and oriented by the results of economic valuations	Records of institutions regarding disbursements of financial resources, interviews with recipients of resources	Annually	Component Coordinator C3	Records of institutions, interviews with recipients	
	3.3	Production systems and conservation areas in target localities with improved management and protection to favour the generation of multiple global environmental benefits	Records of production entities, physical inspections	Annually	Component Coordinator C3	Records of production entities, physical inspections	Adequacy of records of production entities
	3.4	Levels of knowledge and technical capacities among resource managers for the scaling up of production practices that optimize flows of ecosystem goods and services	Interviews with representatives of production entities	Annually	Component Coordinator C3	Interviews with representatives of production entities	Adequacy of records of production entities
Mid-term GEF Tracking Tool	N/A	N/A	Baseline GEF Tracking Tool included in Annex.	After 2nd PIR submitted to GEF	Project Coordinator, Component Coordinators and	Completed GEF Tracking Tool	

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
					Territorial Coordinators		
Terminal GEF Tracking Tool	N/A	N/A	Baseline GEF Tracking Tool included in Annex.	After final PIR submitted to GEF		Completed GEF Tracking Tool	
Mid-term Review	N/A	N/A	To be outlined in MTR inception report	Submitted to GEF same year as 3rd PIR	*Independent evaluator*	Completed MTR	
Environmental and Social risks and management plans.	N/A	N/A	Updated SESP and management plans	Annually	Project Manager UNDP CO	Updated SESP	

C. Evaluation Plan:

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan	Budget for consultants	Travel	Budget for translation
Mid Term Evaluation	*Project month 24*	*Project month 26*	Yes	20,000	1,000	Included in consultant budget
Terminal Evaluation	*3 months before operation closure*	*3 months before operational closure*	Yes	30,000	3,000	Included in consultant budget
			Total evaluation budget	USD 54,000		

D. GEF Tracking Tool (s) at baseline

Please see attached files.

E. Terms of Reference for Key Project Staf

The Ministry of Science, Technology and Environment (CITMA) will be the executing agency of the project and, in conjunction with the Ministry of Foreign Trade and Foreign Investment (MINCEX), will represent the government of Cuba for the adoption of any decisions required, in its name.

National Project Manager

- To elaborate, control and be responsible for the integrated development of the Project, including the establishment and functioning of work groups, and coordination with the participation of all key stakeholders;
- To ensure that previously defined local interests are incorporated into the project, and that counterparts at this level participate in an effective and opportune matter;
- To report on and be accountable for technical and financial execution according to defined timeframes, and to evaluate progress, extracting from each stage corresponding lessons learnt;
- To produce work plans and reports of progress and to be responsible for the information which is generated;
- To select, direct and control the activities of personnel linked to the execution of the projects.
- To establish a mechanism for monitoring and evaluation, which will include the development and implementation of an automatic system, training of personnel in its use, and the establishment, development and maintenance of its databases;
- To define parameters, indicators and points of reference to measure the impact of the project
- To produce training plans and propose documents to be promoted and disseminated in relation to the expected products;
- To organise and participate in periodic field trips to the intervention areas of the project.
- To oversee the result evaluation teams;
- To be responsible for the technical resources made available for the development of Project activities and to give account periodically for their condition.

Local coordinators

- To coordinate the integrated planning and execution of the Project at local level and to link the national and local teams;
- To guide and supervise the actions of the project in each of the intervention areas;
- To convene local entities and actors for their participation and the opportune and efficient management of the project, in both vertical and horizontal dimensions;
- To monitor, evaluate and periodically validate the implementation of the project at this level
- To organise, control and emit information generated by the Project at local level and to be accountable to authorised entities.
- To participate with the central team of the Project, in the definition of objectives, goals, stakeholders, beneficiaries, synergies and antagonisms out to evaluate local barriers;
- To register, control, oversee, administer and guarantee the appropriate use and conservation of the material resources of the project;
- To arrange the divulgation and creation of capacities, within the context of local integrated development;
- To identify and propose actions for scaling up at the different levels foreseen;
- To produce documents for divulgation and promotion
- To propose actions for the training and awareness raising of local stakeholders
- To facilitate audits and project control procedures at this level;
- To control Project expenditures and local contributions to the activities of the Project, and to mobilize additional local funds
- To generate initiatives to stimulate local stakeholders in the implementation of SLM activities.

Administrative personnel

- To participate in the elaboration of budgets and corresponding co-financing
- To develop plans for financial execution, closely linked to financing and co-financing entities, as well as mandatory budget reviews
- To coordinate the acquisition of resources and services for the project;

- To control the location and use of resources and equipment, as well as their conservation, maintenance and protection;
- To control the financial execution of the project, based on the models established for this purpose by the GEF execution agencies;
- To admit periodic information on the state of execution of the project, for the corresponding entities.

Qualifications

For posts at direction level, the following conditions should be applied:

A. Experience in international projects, preferably GEF;
B. Familiarity with the topic on economic valuations of environmental ecosystem goods and services, as well sustainable management of natural resources within the context of current national policy;
C. Proven managerial abilities;
D. Proven capacities for the coordination and planning of international projects;
E. Proven technical capacities and knowledge of the important local sites selected for the execution of the Projects, as well as experience in sustainable land management, protected areas management, sustainable forest management and productive experiences friendly with environment.
F. Proven general knowledge of sustainable management of natural resources in the country, its trends, weaknesses and threats to its application and institutional mainstreaming, and policies related to economic trends in Cuba.

F. UNDP Social and Environmental Screening Template (SESP)

Project Information

Project Information	
1. Project Title	Incorporating multiple environmental considerations and their economic implications into the management of landscapes, forests and production sectors in Cuba
2. Project Number	UNDP-GEF PIMS No. 5760
3. Location (Global/Region/Country)	Cuba

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
Project actions will ensure that the human rights principles set out in the SES guidelines are respected: all actions will be governed by principles of accountability and the rule of law as provided for in national legislation; appropriate mechanisms will be established to ensure the meaningful, effective and informed participation of all relevant stakeholders in the formulation, implementation, monitoring and evaluation of project actions regardless of race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
The national policies context is very favourable to the empowerment of women and gender equality. Project actions will be planned and implemented in such a way as to ensure that women are able to participate in a full, real and equitable manner in planning, decision-making and the enjoyment of benefits. This will include ensuring that women are adequately represented in the participation mechanisms of the project, carrying out gender analyses of proposed actions, identifying specific opportunities to benefit women (for example through specific forms of economic activity) and monitoring gender impacts on a continuous basis. Where appropriate, the indicators in the project's monitoring and evaluation framework have been made gender sensitive.
Briefly describe in the space below how the Project mainstreams environmental sustainability
Environmental sustainability will be mainstreamed into each of the target production sectors through the strengthening of the planning and regulatory instruments that determine the types of locations of permissible productive activity in the target areas, applying a landscape approach that recognises spatial variations in environmental importance, vulnerability and carrying capacity across each landscape. Demonstrations will be established of specific practices and management options in the target sectors that minimize environmental impacts and protect natural capital. A central element of the project's approach will be

the development of capacities and instruments for the evaluation of the implications of alternative courses of action, considering a range of criteria, including environmental sustainability, in a balanced and objective manner.

The project contribute to Outcome 31 of Cuban Country Programme: "Productive and services sectors strengthen the integration of environmental considerations, including energy and adaptation to climate change, into their development plans". Also, this project support the Cuba compliance its engagements with Multilateral Environmental Agreement (MEA) such as Convention on Biological Diversity (CBD).

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks?	QUESTION 3: What is the level of significance of the potential social and environmental risks?			QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?
Risk Description	*Impact and Probability (1-5)*	*Significance (Low, Moderate, High)*	*Comments*	*Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.*
1.2 Project activities are proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities	Impact: 1 Probability: 5	Low	Some of the project's activities in each of the target localities will be carried out in or in the vicinity of protected areas. In general, the activities of the project will have positive rather than negative implications for the PAs in question, by promoting the sustainability of the productive, extractive and service sector activities that currently affect the PAs, and by increasing the habitat and connectivity value of the landscapes surrounding the PAs.	Project activities in or in the vicinity of protected areas will be formulated and implemented in close coordination with the PA authorities (the National Centre for Protected Areas is the lead entity of this project), and in strict accordance with the provisions of the management plans in each case.
1.6 The Project will involve reforestation	Impact: 1 Probability: 5	Low	The project will support reforestation in the production units targeted for SLM activities ("SLM polygons"), in order to generate SLM and SFM benefits in the form of watershed protection and carbon capture.	Reforestation activities will pose minimal environmental risk given that they will be located in such a way as to avoid displacing natural ecosystems, and will involve native non-invasive species, following at all times the technical guidelines developed by the Forest Service. Planting and management will be overseen, and tree development monitored, by the Forest Service
1.7 The Project will involve the harvesting of fish	Impact: 1 Probability:	Low	The project will also work in the fisheries sector. It will not directly participate in or	Project actions in this regard, and the management practices to be recommended, will build on and learn from the experiences of the earlier

populations	5		promote fish harvesting, but will instead support the mainstreaming of considerations of environmental and productive sustainability into the harvesting of wild (marine) fish stocks.	GEF project supporting Integrated Coastal Zone Management in the Southern Archipelago of Cuba. Management measures to avoid negative impacts will include the use of appropriate gear, the definition of and adherence to closed seasons and quotas, and the definition of temporary or permanent no-take zones to permit reproduction and grow-on.
2.2 Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change	Impact: 1 Probability: 3	Low	Cuba is vulnerable to the effects of climate change, such as increased frequency and/or severity of hurricanes, tropical storms and droughts: while these may negatively affect the target production systems and delay results, this will not have negative impacts on the target communities relative to the baseline scenario	Provisions for resilience to climate change will be incorporated in the selection and design of the resource management practices to be promoted by the project.
3.5 Would the proposed Project be susceptible to or lead to increased vulnerability to flooding or extreme climatic conditions	Impact: 1 Probability: 3	Low	Cuba is regularly affected by meteorological phenomena including hurricanes, flooding, tropical storms and droughts. In Cuba there is so much experience in the design and implementation of Civil Defense System.	Adopt measures as part of the Civil Defense Action Plan of the project actors, at the national and local levels.

	QUESTION 4: What is the overall Project risk categorization?		
	Select one (see SESP for guidance)		**Comments**
	Low Risk	X	
	Moderate Risk	☐	
	High Risk	☐	

	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?	
	Check all that apply	**Comments**

	Principle 1: Human Rights	☐	
	Principle 2: Gender Equality and Women's Empowerment	☐	
	1. Biodiversity Conservation and Natural Resource Management	x	Some of the project's activities in each of the target localities will be carried out in or in the vicinity of protected areas, but they will be formulated and implemented in close coordination with the PA authorities (the National Centre for Protected Areas is the lead entity of this project), and in strict accordance with the provisions of the management plans in each case. In general, the activities of the project will have positive rather than negative implications for the PAs in question, by promoting the sustainability of the productive, extractive and service sector activities that currently affect the PAs, and by increasing the habitat and connectivity value of the landscapes surrounding the PAs. The project will support reforestation in the production units targeted for SLM activities ("SLM polygons"), in order to generate SLM and SFM benefits in the form of watershed protection and carbon capture. These will pose minimal environmental risk given that they will be located in such a way as to avoid displacing natural ecosystems, and will involve native non-invasive species, following at all times the technical guidelines developed by the Forest Service. The project will also work in the fisheries sector, supporting the mainstreaming of considerations of environmental and productive sustainability into the harvesting of wild (marine) fish stocks. Project actions in this regard, and the management practices to be promoted, will build on and learn from the experiences of the earlier GEF project supporting Integrated Coastal Zone Management in the Southern Archipelago of Cuba.
	2. Climate Change Mitigation and Adaptation	X	Cuba is regularly affected by meteorological phenomena including hurricanes, tropical storms and droughts: while these may negatively affect the target production systems and delay results, this will not have negative impacts on the target communities relative to the baseline scenario.

			Provisions for resilience to climate change will be incorporated in the selection and design of the resource management practices to be promoted by the project.
	3. *Community Health, Safety and Working Conditions*	X	Cuba is regularly affected by meteorological phenomena including hurricanes, flooding, tropical storms and droughts. In Cuba there is so much experience in the design and implementation of Civil Defense System. The institution involved in the project implementation will define measures as part of its Civil Defense Action Plan.
	4. *Cultural Heritage*	☐	
	5. *Displacement and Resettlement*	☐	
	6. *Indigenous Peoples*	☐	
	7. *Pollution Prevention and Resource Efficiency*	☐	

Final Sign Off

Signature	***Date***	***Description***
QA Assessor	03/05/2018	Gricel Acosta, Oficial Programa. Medio Ambiente y Energía, PNUD
QA Approver	03/05/2018	Soledad Barrera, Representante Adjunta, PNUD.
PAC Chair	23/05/2018	Adelfo Felipe, Coordinadora Programa, PNUD

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental **Risks**	
Principles 1: Human Rights	Answer (Yes/No)
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups?	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services?	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services?	No

1.2 Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3 Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 Would Project activities pose risks to endangered species?	No
1.5 Would the Project pose a risk of introducing invasive alien species?	No
1.6 Does the Project involve harvesting of natural forests, plantation development, or reforestation?	Yes
1.7 Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	Yes
1.8 Does the Project involve significant extraction, diversion or containment of surface or ground water?	No
1.9 Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10 Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11 Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area?	No
Standard 2: Climate Change Mitigation and Adaptation	
2.1 Will the proposed Project result in significant greenhouse gas emissions or may exacerbate climate change?	No
2.2 Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	Yes
2.3 Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding	No
Standard 3: Community Health, Safety and Working Conditions	
3.1 Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2 Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3 Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4 Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No

3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	Yes
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? *If the answer to the screening question 6.3 is "yes" the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.*	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands,	No

	resources, territories and traditional livelihoods of the indigenous peoples concerned?	
6.5	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8	Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

G. Environmental and Social Management Plan (ESMP) for moderate and high risk projects only

N/A (All the risk indentified was clasified like “Low Risk”)

H. UNDP Project Quality Assurance Report (to be completed by UNDP Country Office)

I. Design & Appraisal Stage Quality Assurance Report

Overall Project Rating:	Highly Satisfactory
Decision:	Approve: The project is of sufficient quality to continue as planned. Any management actions must be addressed in a timely manner.
Project Number:	00094887
Project Title:	Incorporating multiple environmental considerations and their economic implications into the management of landscapes, forests and production sectors in Cuba.
Project Date:	01-Jan-2017
Strategic	Quality Rating: Highly Satisfactory

1. Does the project's Theory of Change specify how it will contribute to higher level change? (Select the option from 1-3 that best reflects the project)

◉ 3: The project has a theory of change with explicit assumptions and clear change pathway describing how the project will contribute to outcome level change as specified in the programme/CPD, backed by credible evidence of what works effectively in this context. The project document clearly describes why the project's strategy is the best approach at this point in time.

○ 2: The project has a theory of change. It has an explicit change pathway that explains how the project intends to contribute to outcome-level change and why the project strategy is the best approach at this point in time, but is backed by limited evidence.

○ 1: The project does not have a theory of change, but the project document may describe in generic terms how the project will contribute to development results, without specifying the key assumptions. It does not make an explicit link to the programme/CPD's theory of change.

Evidence	Management Response
The ProDoc explains how the actions to be developed proposed for each of the results, as well as the proposed intervention strategies, will contribute to the achievement of the project objective in relation to the promotion of multiple environmental benefits, based on the integration of the economic valuation of ecosystem services. The achievement of this objective will contribute to the achievement of Outcome 31 of the 2014-2018 Country Programme Document (CPD). This project will support the implementation of national policies related to the strengthening of the economic dimention in the management of natural resources and ecosystems. For example, Task 1 of the State Plan for Tackling Climate Change (Tarea Vida), Goals 3 and 20 of the National Programme for Biological Diversity and its National Action Plan for 2016-2020, and the National Environment Strategy for 2016-2020.	

2. Is the project aligned with the thematic focus of the UNDP Strategic Plan? (select the option from 1-3 that best reflects the project)

☐ 3: The project responds to one of the three areas of development work as specified in the Strategic Plan; it addresses at least one of the proposed new and emerging areas; an issues-based analysis has been incorporated into the project design; and the project's RRF includes all the relevant SP output indicators. (all must be true to select this option)

☉ 2: The project responds to one of the three areas of development work as specified in the Strategic Plan. The project's RRF includes at least one SP output indicator, if relevant. (both must be true to select this option)

☐ 1: While the project may respond to one of the three areas of development work as specified in the Strategic Plan, it is based on a sectoral approach without addressing the complexity of the development issue. None of the relevant SP indicators are included in the RRF. This answer is also selected if the project does not respond to any of the three areas of development work in the Strategic Plan.

Evidence
The Project responds to the strategic area on Sustainable Development Pathways of the UNDP Strategic Plan for 2014-2017 and contributes to Output 1.3, Indicator 1.3.1.

Relevant Quality Rating: Highly Satisfactory

3. Does the project have strategies to effectively identify, engage and ensure the meaningful participation of targeted groups/geographic areas with a priority focus on the excluded and marginalized? (select the option from 1-3 that best reflects this project)

☉ 3: The target groups/geographic areas are appropriately specified, prioritising the excluded and/or marginalised. Beneficiaries will be identified through a rigorous process based on evidence (if applicable.)The project has an explicit strategy to identify, engage and ensure the meaningful participation of specified target groups/geographic areas throughout the project, including through monitoring and decision-making (such as representation on the project board) (all must be true to select this option)

☐ 2: The target groups/geographic areas are appropriately specified, prioritising the excluded and/or marginalised. The project document states how beneficiaries will be identified, engaged and how meaningful participation will be ensured throughout the project. (both must be true to select this option)

☐ 1: The target groups/geographic areas are not specified, or do not prioritize excluded and/or marginalised populations. The project does not have a written strategy to identify or engage or ensure the meaningful participation of the target groups/geographic areas throughout the project.

☐ Not Applicable

Evidence	Management Response
The target groups of the Project are clearly identified. Key actors are defined, as represented both by the different national institutions and by the civil society organizations involved in Project implementation. The geographical áreas were defined through an extensive process of consultation at national and territorial level, and on the basis of extensive information on economic and social development plans and the impacts expected from climate change (pages 41-43 of the ProDoc, Section "Commitment of Key Actors "; page 60, Section " Implementation Arrangements", where the project target groups are identified.	

4. Have knowledge, good practices, and past lessons learned of UNDP and others informed the project design? (select the option from 1-3 that best reflects this project)

◉ 3: Knowledge and lessons learned (gained e.g. through peer assist sessions) backed by credible evidence from evaluation, corporate policies/strategies, and monitoring have been explicitly used, with appropriate referencing, to develop the project's theory of change and justify the approach used by the project over alternatives.

○ 2: The project design mentions knowledge and lessons learned backed by evidence/sources, which inform the project's theory of change but have not been used/are not sufficient to justify the approach selected over alternatives.

○ 1: There is only scant or no mention of knowledge and lessons learned informing the project design. Any references that are made are not backed by evidence.

Evidence	Management Response
Project design takes into account experiences of the UNDP portfolio over 20 years, including lessons learned in the implementation of the National Centre for Protected Areas. This refers to the formulation of budgets, implementation arrangements, the design of indicators and logical frameworks, the selection of sectors and geographical areas, and others. Furthermore, in the section on "Monitoring and Evaluation Framework (ProDoc p56), lessons learned and exchange of knowledge are identified as a means for achieving the continuous interchange of information between this project and others with a similar approach in the country, regional and globally, and to favour the implementation of the project. In addition, in the table in which the budget for Monitoring and Evaluation is defined, the budget amount required for carrying out annual workshops on project lessons learned is defined (ProDoc p57).	

5. Does the project use gender analysis in the project design and does the project respond to this gender analysis with concrete measures to address gender inequities and empower women? (select the option from 1-3 that best reflects this project)

○ 3: A participatory gender analysis on the project has been conducted. This analysis reflects on the different needs, roles and access to/control over resources of women and men, and it is fully integrated into the project document. The project establishes concrete priorities to address gender inequalities in its strategy. The results framework includes outputs and activities that specifically respond to this gender analysis, with indicators that measure and monitor results contributing to gender equality. (all must be true to select this option)

◉ 2: A gender analysis on the project has been conducted. This analysis reflects on the different needs, roles and access to/control over resources of women and men. Gender concerns are integrated in the development challenge and strategy sections of the project document. The results framework includes outputs and activities that specifically respond to this gender analysis, with indicators that measure and monitor results contributing to gender equality. (all must be true to select this option)

○ 1: The project design may or may not mention information and/or data on the differential impact of the project's development situation on gender relations, women and men, but the constraints have not been clearly identified and interventions have not been considered.

Evidence	Management Response
The national policy context favours the empowerment of women and gender equality. An analysis was carried out of how the project will address gender issues. The project results framework includes gender sensitive indicators (1.2. on the strengthening of human and institutional capacities on issues of economic valuation of ecosystem godos and services, 3.4. on training of natural resource managers) (ProDoc p49, Results Framework). In addition, during its implementation the project will take into account gender dimensions in human resource development, in processes of awareness raising, in the development of experiences with the management of natural resources, favouring the preservation of ecosystem goods and services; as well as in the mechanisms for the coordination of the project at different levels (ProDoc p. 43-44, "Gender Dimensions ").	

6. Does UNDP have a clear advantage to engage in the role envisioned by the project vis-à-vis national partners, other development partners, and other actors? (select the option from 1-3 that best reflects this project)

 3: An analysis has been conducted on the role of other partners in the area where the project intends to work, and credible evidence supports the proposed engagement of UNDP and partners through the project. It is clear how results achieved by relevant partners will contribute to outcome level change complementing the project's intended results. If relevant, options for south-south and triangular cooperation have been considered, as appropriate. (all must be true to select this option)

 2: Some analysis has been conducted on the role of other partners where the project intends to work, and relatively limited evidence supports the proposed engagement of and division of labour between UNDP and partners through the project. Options for south-south and triangular cooperation may not have not been fully developed during project design, even if relevant opportunities have been identified.

 1: No clear analysis has been conducted on the role of other partners in the area that the project intends to work, and relatively limited evidence supports the proposed engagement of UNDP and partners through the project. There is risk that the project overlaps and/or does not coordinate with partners' interventions in this area. Options for south-south and triangular cooperation have not been considered, despite its potential relevance.

Evidence	Management Response
UNDP has a large and long working experience with national partners in different sectors: scientific, academic, regulatory and productive (tourism, agriculture and forestry, fisheries, water and energy). In addition, it has established new working relations with key actors linked to the economic and finance sector (this process has been supported by the implementation in the country of the UNDP Global Initiative "Biodiversity Financing" BIOFIN). All of these alliances make UNDP a well placed partner to accompany the national implementation of the project. In the ProDoc South-South and Triangular Cooperation is recognised as a means for exchanging lessons learned and other experiences that favor the ownership of knowledge by national actors in these issues that are novel for Cuba. This is a very important aspect for this project, considering the novelty of the methodological tools that will be designed and validated in support of the economic valuation of ecosystem goods and services (ProDoc p44, South-South and Triangular Cooperation).	

Social & Environmental Standards Quality Rating: Highly Satisfactory

7. Does the project seek to further the realization of human rights using a human rights based approach? (select from options 1-3 that best reflects this project)

☐ 3: Credible evidence that the project aims to further the realization of human rights, upholding the relevant international and national laws and standards in the area of the project. Any potential adverse impacts on enjoyment of human rights were rigorously identified and assessed as relevant, with appropriate mitigation and management measures incorporated into project design and budget. (all must be true to select this option)

☉ 2: Some evidence that the project aims to further the realization of human rights. Potential adverse impacts on enjoyment of human rights were identified and assessed as relevant, and appropriate mitigation and management measures incorporated into the project design and budget.

☐ 1: No evidence that the project aims to further the realization of human rights. Limited or no evidence that potential adverse impacts on enjoyment of human rights were considered.

Evidence	Management Response
The Project foresees broad participation of key actors and other actors involved in Project implementation. The application of the Social and Environmental Screening Protocol SESP (UNDP, 2016) did not identify adverse effects on the enjoyment of human rights.	

8. Did the project consider potential environmental opportunities and adverse impacts, applying a precautionary approach? (select from options 1-3 that best reflects this project)

☉ 3: Credible evidence that opportunities to enhance environmental sustainability and integrate poverty-environment linkages were fully considered as relevant, and integrated in project strategy and design. Credible evidence that potential adverse environmental impacts have been identified and rigorously assessed with appropriate management and mitigation measures incorporated into project design and budget. (all must be true to select this option).

☐ 2: No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. Credible evidence that potential adverse environmental impacts have been identified and assessed, if relevant, and appropriate management and mitigation measures incorporated into project design and budget.

☐ 1: No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. Limited or no evidence that potential adverse environmental impacts were adequately considered.

Evidence	Management Response
As a result of the application of the SESP, risks of potential adverse environmental impacts have been identified. These risks are related to the development of forestry and fisheries activities, as well as activities in zones adjoining protected areas. Risks were also identified associated with the occurrence of extreme meteorological phenomena, such as hurricanes. In consequence, risk management measures were defined for each case (defined as “low” risk) (see ProDoc p45-47, "Feasibility").	

9. Has the Social and Environmental Screening Procedure (SESP) been conducted to identify potential social and environmental impacts and risks? [If yes, upload the completed checklist as evidence. If SESP is not required, provide the reason(s) for the exemption in the evidence section. Exemptions include the following:

Preparation and dissemination of reports, documents and communication materials

Organization of an event, workshop, training

Strengthening capacities of partners to participate in international negotiations and conferences

Partnership coordination (including UN coordination) and management of networks

Global/regional projects with no country level activities (e.g. knowledge management, inter-governmental processes)

UNDP acting as Administrative Agent

◉ Yes

○ No

○ SESP not required

Evidence

List of Uploaded Documents		
File Name	Modified By	Modified
SES_UNDP-GEF_project_ECOVALOR_11102017.docx	yamilka.caraballo@undp.org	10/12/2017 12:28:36 PM

Management & Monitoring Quality Rating: Highly Satisfactory

10. Does the project have a strong results framework? (select from options 1-3 that best reflects this project)

◉ 3: The project's selection of outputs and activities are at an appropriate level and relate in a clear way to the project's theory of change. Outputs are accompanied by SMART, results-oriented indicators that measure all of the key expected changes identified in the theory of change, each with credible data sources, and populated baselines and targets, including gender sensitive, sex-disaggregated indicators where appropriate. (all must be true to select this option)

○ 2: The project's selection of outputs and activities are at an appropriate level, but may not cover all aspects of the project's theory of change. Outputs are accompanied by SMART, results-oriented indicators, but baselines, targets and data sources may not yet be fully specified. Some use of gender sensitive, sex-disaggregated indicators, as appropriate. (all must be true to select this option)

○ 1: The results framework does not meet all of the conditions specified in selection "2" above. This includes: the project's selection of outputs and activities are not at an appropriate level and do not relate in a clear way to the project's theory of change; outputs are not accompanied by SMART, results-oriented indicators that measure the expected change, and have not been populated with baselines and targets; data sources are not specified, and/or no gender sensitive, sex-disaggregation of indicators.

Evidence	Management Response
The Project results framework defines SMART indicators at outcome level that allow the measurement of advances in the process towards the achievement of the indicators at objective level. It establishes gender-sensitive indicators (ProDoc p48-50, "Results Framework ").	

11. Is there a comprehensive and costed M&E plan with specified data collection sources and methods to support evidence-based management, monitoring and evaluation of the project?

☉ Yes

○ No

Evidence
The ProDoc establishes the Monitoring and Evaluation Framework for monitoring the implementation of the Project, with the respective defined budget (ProDoc p54-58, "Monitoring and Evaluation Framework"). The monitoring of anual progress and review of lessons learned will allow the definition of posible means to be adopted with an adaptive management approach to guarantee the sucessful implementation of the Project..

12. Is the project's governance mechanism clearly defined in the project document, including planned composition of the project board? (select from options 1-3 that best reflects this project)

○ 3: The project's governance mechanism is fully defined in the project document. Individuals have been specified for each position in the governance mechanism (especially all members of the project board.) Project Board members have agreed on their roles and responsibilities as specified in the terms of reference. The ToR of the project board has been attached to the project document. (all must be true to select this option).

☉ 2: The project's governance mechanism is defined in the project document; specific institutions are noted as holding key governance roles, but individuals may not have been specified yet. The prodoc lists the most important responsibilities of the project board, project director/manager and quality assurance roles. (all must be true to select this option)

○ 1: The project's governance mechanism is loosely defined in the project document, only mentioning key roles that will need to be filled at a later date. No information on the responsibilities of key positions in the governance mechanism is provided.

Evidence	Management Response
The decision making mechanisms of the Project (National Steering Committee, Project Management Unit and Broader PMU) are defined in the ProDoc (p59-61, " Implementation Arrangements"). Terms of Reference for the Project Director and Administrator are attached to the ProDoc, together with those of the Provincial Coordinators (p100-101, Annex E). The functions and responsibilities of the Project coordination team are defined and will be discussed in the Project inception workshop.	

13. Have the project risks been identified with clear plans stated to manage and mitigate each risks? (select from options 1-3 that best reflects this project)

○ 3: Project risks related to the achievement of results are fully described in the project risk log, based on comprehensive analysis drawing on the theory of change, Social and Environmental Standards and screening, situation analysis, capacity assessments and other analysis. Clear and complete plan in place to manage and mitigate each risk. (both must be true to select this option)

☉ 2: Project risks related to the achievement of results identified in the initial project risk log with mitigation measures identified for each risk.

☐ 1: Some risks may be identified in the initial project risk log, but no evidence of analysis and no clear risk mitigation measures identified. This option is also selected if risks are not clearly identified and no initial risk log is included with the project document.

Evidence	Management Response
Policy, financial, environmental and operational risks to the implementation of the project have been identified. The respective risk management risks were defined, to be followed up during the implementation of the Project (ProDoc p45-47, "Feasibility")	

Efficient Quality Rating: Highly Satisfactory

14. Have specific measures for ensuring cost-efficient use of resources been explicitly mentioned as part of the project design? This can include: i) using the theory of change analysis to explore different options of achieving the maximum results with the resources available; ii) using a portfolio management approach to improve cost effectiveness through synergies with other interventions; iii) through joint operations (e.g., monitoring or procurement) with other partners.

☉ Yes

☐ No

Evidence
The project will promote synergies with other international cooperation initiatives under implementation in the country that also support the strengthening of the economic dimension of the management of biodiversity and ecosystems. In this regard the UNDP Global Initiative “Biodiversity Financing” (BIOFIN) will play an important role as a working platform that strengthens alliances between economic and finance, environmental and productive sectors. The national institutions that lead this initiative in the country will accompany the implementation of the project in policy advice in relation to economics, finances and environment. This role is recognised in the organogram of the implementation arrangements of the project (ProDoc p59, “Implementation Arrangements”). In addition, alliances will be established with other initiatives such as the UNDP/GEF Project “A landscape approach to the conservation of threatened mountain ecosystems”, the UNDP/Adaptation Fund Project “Reduction of vulnerability to coastal flooding in the south of Artemisa and Mayabeque provinces through ecosystem-based adaptation” and the UNDP/FAO/GEF project (CPP Project 3): “Strengthening of Capacities for Sustainable Financing Mechanisms/Sustainable Land Management in Dry Forest Ecosystems and Ranching Areas”. (ProDoc p40-41, "Alliances").

15. Are explicit plans in place to ensure the project links up with other relevant on-going projects and initiatives, whether led by UNDP, national or other partners, to achieve more efficient results (including, for example, through sharing resources or coordinating delivery?)

☉ Yes

☐ No

Evidence
Project implementation will be supported by national research projects (financed by the Government through the National System of Science and Technological Innovation), which guarantees the flow of information on scientific results on issues related to the economic valuation of ecosystem goods and services. In addition, the project has cofinancing for its six year implementation period from national actors committed to the achievements of the foreseen results (National Fund for

Forestry Development FONADEF: 8 million pesos, National Programme for Soil Conservation and Improvement PNCMS: 24 million pesos, the National Environment Fund FNMA: 1 million pesos and the National Centre for Protected Areas CNAP: 4.8 million pesos). In this last case, cofinancing is assigned through the State Budget assigned to CNAP, considering its position as project Implementing Agency. In all cases, the cofinancing amounts are the same as proposed in the PIF.

List of Uploaded Documents

File Name	Modified By	Modified
Carta_de_Cofinanciamiento_PNMCS.pdf	yamilka.caraballo@undp.org	10/6/2017 5:11:01 PM
Carta_de_Cofinanciamiento_CNAP.pdf	yamilka.caraballo@undp.org	10/6/2017 5:18:42 PM
Carta_de_Cofinanciamiento_FONADEF.pdf	yamilka.caraballo@undp.org	10/6/2017 5:14:52 PM
Carta_de_Cofinanciamiento_FNMA.pdf	yamilka.caraballo@undp.org	10/6/2017 5:15:13 PM

16. Is the budget justified and supported with valid estimates?

(●) 3: The project's budget is at the activity level with funding sources, and is specified for the duration of the project period in a multi-year budget. Costs are supported with valid estimates using benchmarks from similar projects or activities. Cost implications from inflation and foreign exchange exposure have been estimated and incorporated in the budget.

( ) 2: The project's budget is at the activity level with funding sources, when possible, and is specified for the duration of the project in a multi-year budget. Costs are supported with valid estimates based on prevailing rates.

( ) 1: The project's budget is not specified at the activity level, and/or may not be captured in a multi-year budget.

Evidence
The Budget was defined taking into consideration the activities to be developed and specifying a multiannual budget for each year of implementation. The definition of costs considered valid estimates using as reference similar projects or activities. Also considered in the definition of costs were the repercussions of inflation and exposure to changes in Exchange rates (ProDoc p63-70 "Total Budget and Work Plan).

17. Is the Country Office fully recovering the costs involved with project implementation?

( ) 3: The budget fully covers all direct project costs that are directly attributable to the project, including programme management and development effectiveness services related to strategic country programme planning, quality assurance, pipeline development, policy advocacy services, finance, procurement, human resources, administration, issuance of contracts, security, travel, assets, general services, information and communications based on full costing in accordance with prevailing UNDP policies (i.e., UPL, LPL.)

(●) 2: The budget covers significant direct project costs that are directly attributable to the project based on prevailing UNDP policies (i.e., UPL, LPL) as relevant.

( ) 1: The budget does not reimburse UNDP for direct project costs. UNDP is cross-subsidizing the project and the office should advocate for the inclusion of DPC in any project budget revisions.

Evidence	Management Response
The Budget covers costs attributable to the Project in accordance with the policies of UNDP and the Universal Price List. Support costs incurred by UNDP will be recovered as provided for in the Letter of Agreement between UNDP and the	

Government, which will be signed by the Government as part of the process of signing the ProDoc (ProDoc p112-114, Annex K).	

Effective Quality Rating: Highly Satisfactory

18. Is the chosen implementation modality most appropriate? (select from options 1-3 that best reflects this project)

☉ 3: The required implementing partner assessments (capacity assessment, HACT micro assessment) have been conducted, and there is evidence that options for implementation modalities have been thoroughly considered. There is a strong justification for choosing the selected modality, based on the development context. (both must be true to select this option)

☐ 2: The required implementing partner assessments (capacity assessment, HACT micro assessment) have been conducted and the implementation modality chosen is consistent with the results of the assessments.

☐ 1: The required assessments have not been conducted, but there may be evidence that options for implementation modalities have been considered.

Evidence	Management Response
The National Implementation Modality is adequate for the implementation of this Project, considering that there have been successful experiencies with this modality in international cooperation projects to date. Furthermore, recently a Capacity Evaluation was carried out of the Project Execution Partner (CNAP), resulting in a “low risk” qualification (ProDoc p111, Annex J).	

19. Have targeted groups, prioritizing marginalized and excluded populations that will be affected by the project, been engaged in the design of the project in a way that addresses any underlying causes of exclusion and discrimination?

☐ 3: Credible evidence that all targeted groups, prioritising marginalized and excluded populations that will be involved in or affected by the project, have been actively engaged in the design of the project. Their views, rights and any constraints have been analysed and incorporated into the root cause analysis of the theory of change which seeks to address any underlying causes of exclusion and discrimination and the selection of project interventions.

☉ 2: Some evidence that key targeted groups, prioritising marginalized and excluded populations that will be involved in the project, have been engaged in the design of the project. Some evidence that their views, rights and any constraints have been analysed and incorporated into the root cause analysis of the theory of change and the selection of project interventions.

☐ 1: No evidence of engagement with marginalized and excluded populations that will be involved in the project during project design. No evidence that the views, rights and constraints of populations have been incorporated into the project.

☐ Not Applicable

Evidence
Project target groups have been identified and were adequately consulted on Project design. They are committed to the implementation of the Project, and their roles are in accordance with their competencies (ProDoc p41-43 "Commitment by Key Institutions "; and ProDoc p60, "Implementation Arrangements", where project target groups are identified).

20. Does the project conduct regular monitoring activities, have explicit plans for evaluation, and include other lesson learning (e.g. through After Action Reviews or Lessons Learned Workshops), timed to inform course corrections if needed during project implementation?

◉ Yes

○ No

Evidence
The definition of lessons learned is included in the actions of systematic monitoring for implementation, together with a budget destined for monitoring actions (ProDoc p54-58, "Monitoring and Evaluation Framework ").

21. The gender marker for all project outputs are scored at GEN2 or GEN3, indicating that gender has been fully mainstreamed into all project outputs at a minimum.

◉ Yes

○ No

Evidence	Management Response
The Project considers gender equity in its interventions related to training and capacity development of key actors; as well as in the promotion of economic and productive activities, with equality of participation of men and women, based on natural resource management that favours the preservation of ecosystem goods and services (ProDoc p43-44, "Gender Dimensions "). Gender sensitive indicators are also include in the Results Framework (ProDoc p49-51).	

22. Is there a realistic multi-year work plan and budget to ensure outputs are delivered on time and within allotted resources? (select from options 1-3 that best reflects this project)

◉ 3: The project has a realistic work plan & budget covering the duration of the project at the activity level to ensure outputs are delivered on time and within the allotted resources.

○ 2: The project has a work plan & budget covering the duration of the project at the output level.

○ 1: The project does not yet have a work plan & budget covering the duration of the project.

Evidence
The Project has a Budget defined for each of the years of its implementation period (ProDoc p77-94, Annex A).

Sustainability & National Ownership Quality Rating: Exemplary

23. Have national partners led, or proactively engaged in, the design of the project?

◉ 3: National partners have full ownership of the project and led the process of the development of the project jointly with UNDP.

☐ 2: The project has been developed by UNDP in close consultation with national partners.

☐ 1: The project has been developed by UNDP with limited or no engagement with national partners.

☐ Not Applicable

Evidence
There is extensive commitment among key national actors involved in the design and implementation of the project, both from Government and civil society (ProDoc p41-43 "Key Actors ").

24. Are key institutions and systems identified, and is there a strategy for strengthening specific/ comprehensive capacities based on capacity assessments conducted? (select from options 0-4 that best reflects this project):

☐ 3: The project has a comprehensive strategy for strengthening specific capacities of national institutions based on a systematic and detailed capacity assessment that has been completed. This strategy includes an approach to regularly monitor national capacities using clear indicators and rigorous methods of data collection, and adjust the strategy to strengthen national capacities accordingly.

☉ 2.5: A capacity assessment has been completed. The project document has identified activities that will be undertaken to strengthen capacity of national institutions, but these activities are not part of a comprehensive strategy to monitor and strengthen national capacities.

☐ 2: A capacity assessment is planned after the start of the project. There are plans to develop a strategy to strengthen specific capacities of national institutions based on the results of the capacity assessment.

☐ 1.5: There is mention in the project document of capacities of national institutions to be strengthened through the project, but no capacity assessments or specific strategy development are planned.

☐ 1: Capacity assessments have not been carried out and are not foreseen. There is no strategy for strengthening specific capacities of national institutions.

☐ Not Applicable

Evidence
During the Project design phase, the capaity strengthening needs of the institutions involved in the Project at national and local levels have been identified, and activities and budgets have been provided for accordingly.

25. Is there is a clear strategy embedded in the project specifying how the project will use national systems (i.e., procurement, monitoring, evaluations, etc.,) to the extent possible?

☉ Yes

☐ No

☐ Not Applicable

Evidence
These arrangements are clearly agreed between UNDP and Government for all national implementation projects and will

therefore be strictly applied to this project. Nationak rules are described in the ProDoc.

26. Is there a clear transition arrangement/ phase-out plan developed with key stakeholders in order to sustain or scale up results (including resource mobilisation strategy)?

◉ Yes

○ No

Evidence
The high level of involvement of the Organisms of the Central Administration of the State and other institutions at national and local levels (scientific, academic, decisión makers production sectors) related to the use of natural resources and the management of ecosystems, is the key factor determinin the ownership and sustainability of results once the project ends. This has been amply demonstrated in environmental projects of UNDP in Cuba. In this sense, a very favourable aspect is the participation of key actors from the sectors of finance and economic planning in the design of the Project, as well as their commitment to its implementation. Also favourable in this regard is the advisory role that these actors will be playing on economic, financial and environmental issues during the implementation of the project (ProDoc p59-61, "Implementación Arranements").

Quality Assurance Summary/PAC Comments

I. UNDP Risk Log

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
Policy makers give greater priority to the generation of short term financial and productivity considerations than to considerations of sustainability and inter-sector impacts	Political	**Impact** = 3: target ecosystems may be negatively affected but the tools to be generated by the project will minimize net implications **Probability** = 3: policy makers increasingly recognize the importance of sustainability issues	The project will develop tools and capacities aimed to support the decision makers to weigh up the net implications of different sector development scenarios. The project will develop technical capacity which will provide technical options to actors in the economic sectors reducing or offsetting their impacts.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing
National budget constraints reduce the availability of incentives for management practices that generate or safeguard ecosystem goods and services	Financial	**Impact** = 3: uptake of practices by resource managers will also be motivated by considerations of productivity and sustainability, rather than solely incentives **Probability** = 3: income from tourism may be affected by climatic or external geopolitical factors	The project will promote capacity building on ecosystem goods and services to increase the understanding of its importance to the social and economic development, and will also propose viable financing options for the sustainable management and conservation of ecosystems and their services.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing
Climate change and extreme weather events result in degradation of ecosystems and their ability to generate ecosystem goods and services.	Environmental	**Impact** = 3: the management practices to be promoted will take into account climate change resilience **Probability** = 5: no doubt that target ecosystems will be affected by climate change	Valuation of ecosystem goods and services and awareness raising will result in increased investment in the restoration of ecosystems and the recovery of their resilience and their capacities to generate ecosystem goods and services. Other methodological tools might be developed by the project in order to reduce the ecosystems vulnerability to climate change and extreme weather events.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Increasing
Institutional changes in the context of the process of updating the economic and social model in Cuba generate modifications in the key stakeholders of the Project and their respective responsibilities.	Operational	**Impact** = 3: changes in the structure and responsibilities of the key Project stakeholders may generate changes in the role they play in Project implementation **Probability** = 3:	Systematic monitoring of the institutional situation and timely adjustments to roles in Project coordination and implementation.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing

Project risks					
Description	**Type**	**Impact & Probability**	**Mitigation Measures**	**Owner**	**Status**
Delay in the processes of implementation of the Project due to delays in imports.	Operational	**Impact** = 3: delays in procurement processes associated with imports may delay the validation of production processes **Probability** = 2, if adequate organizational measures are not adopted	Timely Identification of bottlenecks associated with import processes. Define and implement actions to speed up the import process (shipment) jointly with the actors involved in the process.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	Reducing
Risks identified in the Social and Environmental Screening (SESP) (Annex XIII F)					
1.2 Project activities are proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities	Environmental	**Impact** = 1: the activities proposed in PAs are all compatible with the maintenance of environmental values **Probability** = 5	Project activities in or in the vicinity of protected areas will be formulated and implemented in close coordination with the PA authorities (the National Centre for Protected Areas is the lead entity of this project), and in strict accordance with the provisions of the management plans in each case.	The National Project Director will monitor the risk. UNDP will provide support and supervision.	
1.6 The Project will involve reforestation		**Impact**: 1 **Probability**: 5	Reforestation activities will pose minimal environmental risk given that they will be located in such a way as to avoid displacing natural ecosystems, and will involve native non-invasive species, following at all times the technical guidelines developed by the Forest Service. Planting and management will be overseen, and tree development monitored, by the Forest Service		
1.7 The Project will involve the harvesting of fish populations		Impact: 1 Probability: 5	Project actions and management practices will build on and learn from the experiences of GEF project Integrated Coastal Zone Management in the Southern Archipelago of Cuba. Management measures will include use of appropriate gear, definition of and adherence to closed seasons and quotas, and definition of temporary or permanent no-take zones to permit reproduction and grow-on.		
Sensitivity or vulnerability to impacts of climate change and extreme climatic conditions (SESP risks 2.2 and 3.5)	See above				

J. Results of the capacity assessment of the project implementing partner and HACT micro assessment (to be completed by UNDP Country Office)

This assessment has been duly completed. Implementing Partner National Centre for Protected Areas (CNAP) was rated as "low risk".

K. Standard letter of agreement between UNDP and Government

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

Dear Viceminister:

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 programme support document or 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 programme/project:
   (a) Identification and/or recruitment of project and programme personnel;
   (b) Procurement of goods and services;
   (c) Financial transactions;
   (d) Identification and facilitation of training activities

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 programme support document or 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 a programme or project, the annex to the programme support document or 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 between the Government of Cuba and UNDP, signed in Havana in May 17, 1975 (the "SBAA"), 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 programme or 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 programme support document or 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 above shall be specified in the annex to the programme support document or project document.

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,

Signed on behalf of UNDP

Soledad Bauza

Deputy Resident Representative

For the Government

José Fidel Santana

Viceminister – Ministry of Science, Technology and the Environment

[*Date*] 20/8/18

Attachment

DESCRIPTION OF UNDP COUNTRY OFFICE SUPPORT SERVICES

Reference is made to consultations between the Ministry of Science, Technology and the Environment (CITMA), 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 GEF Project: **"Incorporating multiple environmental considerations and their economic implications into the management of landscapes, forests and production sectors in Cuba".** Award ID: 00094887, Project ID: 00098961.

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

2. Support services to be provided:

Support services (insert description)	Schedule for the provision of the support services	Cost to UNDP of providing such support services (where appropriate)	Amount and method of reimbursement of UNDP (where appropriate)
1. Payments, disbursements and other financial transactions	During project implementation	Universal Price List	Direct Project Costs charged to the Project Budget.
2. Recruitment of project personnel and consultants	During project implementation	Universal Price List	Direct Project Costs charged to the Project Budget.
3. Procurement of services, goods and equipment.	During project implementation	Universal Price List	Direct Project Costs charged to the Project Budget.
4. Organization of training activities, conferences, and workshops	During project implementation	Universal Price List	Direct Project Costs charged to the Project Budget.
5. Visa requests, ticketing, and travel arrangements	During project implementation	Universal Price List	Direct Project Costs charged to the Project Budget.
		Total: Up to USD 95,000 from GEF grant	

4. Description of functions and responsibilities of the parties involved:

The project will be conducted through the National Implementation Modality of UNDP (NIM). The Ministry of Science, Technology and the Environment (CITMA) will act as the National Implementing Partner, through the National Centre for Protected Areas (CNAP). UNDP will act as the GEF Implementing Agency. Additional information regarding functions and responsibilities of the parties involved is described in the Project Document.

UNDP will provide technical and operational support for the implementation of specific activities when requested by CNAP/CITMA. In those cases, UNDP office will ensure that consultant contracts, purchases orders and contracts for company services are in compliance with UNDP standards and procedures. Therefore, these processes will not be subjected to the national implementation audits. Instead, they will be covered by the internal UNDP audits.

L. Output-specific provisions for gender mainstreaming

Project Outputs	Gender mainstreaming strategies
Output 1.1: Development of proposals for the inclusion of economic valuation results into policies, strategies, plans and regulations	• Require that the economic valuations specifically consider the possibility, nature and magnitude of differences in the implications of their results between men and women • Ensure that the policies, strategies, plans and regulations make correponding provisions as necessary for gendered implications
Output 1.2: Strengthening of inter-sector platforms for the negotation of environmental issues	• Require and monitor that women are equitably repesented in the platforms, both in terms of numbers and functions • Develop guidelines/checklists for the functioning of the platforms to ensure that all negotiations specifically address potential gender differentiations
Output 1.3: Strengthening of entities for the analysis of policy implications of the results of valuations of ecosystem goods and services	• Develop and apply protocols to ensure that policy analyses specifically consider potential gender differentiations and make corresponding provisions to optimize gender equity
Output 1.4: Proposals of methodological protocols and/or legal instruments for the incorporation of ecosystem valuation into key processes and procedures	• Include specific provisions in the protocols and instruments to ensure that they consider potential gendered implications and make corresponding provisions to optimize gender equity
Output 1.5: Training on incorporation of economic valuation into decision making	• Require and monitor that women are equitably repesented in training programmes • Incorporate gender issues into training modules, such as awareness of potential gendered differences in the results of economic valuations corresponding strategies for optimizing gender equity in decision making.
Output 2.1: Development of mechanisms for the management of and access to information	• Require and monitor that the information managed is (where possible and relevant) disaggregated by gender
Output 2.2: Development of methodological tools in support of Targeted Scenario Analysis (TSA)	• Develop and incorporate specific tools to allow gender implications to be considered in TSA
Output 2.3: Generation of results of economic valuations to address priority issues and threats in the target sectors	• Require and monitor that the results are (where possible and relevant) disaggregated by gender
Output 2.4: Development of communication mechanisms and awareness raising materials	• Require and monitor that the mechanisms and materials highlight any gendered results and implications • Ensure adequate gender balance in the target audiences for the mechanisms and materials
Output 3.1: Support to local level platforms for information exchange and analysis	• Require and monitor adequate gender balance in participation in the platforms • Ensure that the information managed through the platforms is (where possible and relevant) differentiated by gender
Output 3.2: Strengthening of local mechanisms for negotiation of environmental issues and conflicts	• Require and monitor that women are equitably repesented in the platforms, both in terms of numbers and functions; • Develop guidelines/checklists for the functioning of the platforms to ensure that all negotiations specifically address potential gender differentiations.
Output 3.3: Piloting of methodological tools for the incorporation of ecosystem	• Develop and incorporate specific tools to allow gender implications to be considered into the a pilot site • Develop a pilot site experience focused in gender perspective

Project Outputs	Gender mainstreaming strategies
valuation into local decision-making mechanisms	
Output 3.4: Development of capacities and systems for environmental monitoring	• Ensure that environmental indicators are (where possible and relevant) differentiated by gender • Require and monitor an equitable gender balance among the target audience for capacity development
Output 3.5: Proposals of financial instruments	• Ensure that financial instruments make adequate provision for the equitable distribution of benefits between men and women (male- and female-led households, and within families) and take into account possible indirect gendered social or economic implications
Output 3.6: Demonstrations of the productive and environmental viability of management practices	• Ensure that the proposed management practices optimize the gender equity of the distribution of benefits, workload, social status and control over resources
Output 3.7: Development of technical capacities at local level for application of management and restoration options	• Ensure that capacity development modules make specific reference, where relevant, to gender issues • Require and monitor an equitable gender balance among the target audience for capacity development

M. Key data on the target areas (all figures in ha)

Current forest cover in forestry companies	5,000.00
Forest cover to be establishes in forestry companies	2,500.00
(1) Total forestry sector coverage outside of PAs	**7,500.00**
Total area of forestry polygons in protected areas	3,000.00
Total area of forestry activity in PAs (outside of polygons)	4,600.00
(2) Total area of PAs (forest sector activity and other area)	**1,039,093.44**
(3) Total fisheries sector area	**240,000.00**
(4) Agriculture sector area (demonstration polygons)	**1,703.43**
Total direct area of project coverage ((1) + (2) + (3) + (4))	**1,288,296.87**
Indirect area	**1,137,631.13**
TOTAL AREA:	**2,425,928,00**

FORESTRY SECTOR:

Summary:

Total area of forestry polygons in forestry enterprises	7,500ha (5 enterprises)
Total area of forestry polygons in protected areas	3,000ha (2 protected areas)
Total area of forestry activity in PAs (outside of polygons)	4,600ha (10 protected areas)
Total area of forestry sector activity	**15,100ha (forestry polygons and PAs)**

Forest cover

Province	Forestry Companies	Current forest cover (ha)	Forest cover to be established (ha)	Total area (ha)
Pinar del Río	Guanahacabibes	1000	500	4,500
	M. Matahambre	1000	500	
	La Palma	1000	500	
Matanzas	Matanzas	1000	500	1,500
Las Tunas	Las Tunas	1000	500	1,500
Totals	**5**	**5,000**	**2,500**	**7,500**

Areas of forests in Protected Areas contained within forestry polygons (ha)

Province	Protected Area	Natural Forests	Area to be established	Total area of forest
Pinar del Río	APRM Mil Cumbres	1,000	500	1,500
Matanzas	APRM Península de Zapata	1,000	500	1,500
Totals	**5 forest enterprises**	**2,000**	**1,000**	**3,000**

Area of forestry polygons (ha)

Province	Polygons	Forest cover		Area to be established	Total forest area
		Natural forests	Artificial forests		
Forestry enterprises					
Pinar del Río	Guanahacabibes	500	500	500	4,500
	Macurije	500	500	500	
	La Palma	500	500	500	
Matanzas	Matanzas	500	500	500	1,500
Las Tunas	Las Tunas	500	500	500	1,500
Subtotals	**5**	**2,500**	**2,500**	**2,500**	**7,500**
Protected areas					
Pinar del Río	APRM Mil Cumbres	1,000		500	1,500
Matanzas	APRM Península de Zapata	1,000		500	1,500
Subtotals	**2**	**2,000**		**1,000**	**3,000**
Total	**7**	**4,500**	**2,500**	**3,500**	**10,500**

AGRICULTURE SECTOR:

Names and areas of demonstration polygons

Demonstration polygons				
Province	**Municipality**	**Management model**	**Name**	**Area (ha)**
Pinar del Río	Viñales	CCSF	Rubén Martínez Villena	35.34
Matanzas	Limonar	CCS	Juan Avila	300.00
	Unión de Reyes	CCSF	Antonio López	400.00
	Jagüey Grande	CCS	Israel León	28.00
Villa Clara	Sagua la Grande	UEB	El Dorado (pastoreo 5 y 6)	185.89
	Encrucijada	UEB	El Piñón	325
Las Tunas	Puerto Padre	CCSF	Mártires de Bolivia	4.00
	Jesús Menéndez	UEB	Adolfo Villamar	88.61
Holguín	Gibara	CCS	José Velázquez	224.59
	Banes	UBPC	Antonio Maceo	54.00
Totals	**10**			**1,703.43**

Land use in target polygons

Provinces:	**Pinar del Río**	**Matanzas**			**Villa Clara**		**Las Tunas**		**Holguín**		**Total (ha)**
Polygons	**Viñales**	**Limonar**	**Unión de Reyes**	**Jagüey Grande**	**Sagua la Grande**	**Encruc-ijada**	**Puerto Padre**	**Jesús Menéndez**	**Gibara**	**Banes**	
i. Agriculture	16.76	20	399.08	28		325	4	88.61	224.59	112	**1218.04**
ii. Rangeland	16.54	200									**216.54**
iii. Pastoral	1.0	45			185.89						**231.89**
iv. Forestry	1.04	25									**26.04**
v. Mixed Systems		10	0.92								**10.92**
Área Total	**35.34**	**300**	**400**	**28**	**185.89**	**325**	**4**	**88.61**	**224.59**	**112**	**1,703.43**

FISHERIES SECTOR

Target fisheries establishments

Province	**Municipality**	**Fisheries Establishments**	**Type of activity**	**Area (ha)**
Villa Clara	Sagua la Grande	UEB Isabela de Sagua	Oysters (3 farms)	12
	Caibarién	UEB Caibarién	Open sea scale fish	239,963
			Sponge	13
Las Tunas	Manatí	UEB Puerto Manatí	Oysters (3 farms)	12
Totals	**3**	**3**		240,000

PROTECTED AREAS

Names and areas of target protected areas

Protected Areas			
Provinces	**Management Category**	**Names**	**Area (ha)**
Pinar del Río	National Park	Guanahacabibes	39,830.00
	National Park	Viñales	15,010.00
	Ecological Reserve	Los Pretiles	37,100.00
	Management Resource PA	Mil Cumbres	17,220.00
Matanzas	Protected Natural Landscape	Valle del Río Canimar	810.00
	Protected Natural Landscape	Varahicacos	124.70
	Management Resource PA	Península de Zapata	279,645.74
	National Park	Ciénaga de Zapata	418,921.00
	Outstanding Natural Element	Sistema Espeleolacustre de Zapata	14,661.00
Villa Clara	National Park	Los Caimanes	28,831.00
	Fauna Refuge	Las Picúas - Cayo Cristo	55,970.00
	Fauna Refuge	Lanzanillo - Pajonal - Fragoso	87,070.00
	Fauna Refuge	Cayo Santa María	29,890.00
Las Tunas	Managed Flora Reserve	Bahía de Nuevas Grandes - La Isleta	6,588.00
Holguín	Ecological Reserve	Caletones	7,422.00

Protected Areas			
Provinces	**Management Category**	**Names**	**Area (ha)**
	Totales	**15**	**1,039,093.44**

Forest types in target PAs

Province	Forest types	Area (ha)
Pinar del Río		**46,917.70**
Guanahacabibes	Centre: semideciduous forests in calcareous soils North: mangroves South: Dune vegetation, coastal and sub-coastal vegetation	23,771
Los Pretiles	Forests, pines, mangroves and swamp grasslands.	2,429.80
Viñales	Mogotes, oak and pine forests	9,413.40
Mil Cumbres	Natural	11,303.50
Matanzas		**234,140.54**
Ciénaga de Zapata (includes Ciénaga de Zapata NP and Sistema Espeleolacustre de Zapata)		233,265.30
Varahicacos	High and low micrphyllous evergreen forest, high and low xeromorphic coastal scrub, mangroves	100.74
Valle del Río Canimar	Mangroves, semideciduous forests, gallery forests and secondary scrub	774.50
Villa Clara		**36,744.60**
Cayos Santa María	Naturals	4,086.70
Lanzanillo-Pajonal-Fragoso	Naturals	17,039.90
Las Picúas-Cayo del Cristo	Mangroves and xeromorphic scrub on sandy coasts	15,618.00
Los Caimanes		0.00
Las Tunas		**4,165.00**
Bahía Nueva Grande La Isleta	Mangroves; coastal manigua; poorly drained semideciduous forests; semideciduous forests on calcareous soils; semideciduous forests on acid soils	4,165.00
Holguín		**7,541.50**
Caletones	Manglares, bosques semideciduos	7,541.50
TOTAL (ha)		**329,509.34**

N. Quantifying Carbon Benefits

Carbon benefits will be generated through improvements to forest management and the establishment of plantations. As the effective duration of the implementation phase will be different in these two situations, separate EX-ACT tools have been developed.

1) Improvements to management of forest plantations and natural forests

Emissions benefits related to management improvements are calculated on the "5. Management" sheet of EX-ACT.

Management improvements in forest plantations

Management will be improved over 5 x 100ha areas of forest plantation in each of 7 forestry polygons (a total of 3,500ha). The introduction of management improvements in plantations will be staggered, with one 100ha lot targeted each year in each forestry polygon, starting from year 2 and continuing to year 6. The mean starting point for management improvements is therefore assumed to be year 4. The project implementation period is therefore assumed to be 3 years (years 4-6) and the capitalization phase 17 years, giving a total accounting period of 20 years.

The bases for the carbon calculations are as follows:

		EX-ACT reference
1. Carbon content in plantations, based on measurements in Cuba (above and below ground tree portions only)	83.5tC/ha	
2. Assumed above ground portion (based on above/below ground ratio of EX-ACT default values for Plantation Zone 2)	69.6C/ha	Sheet '5.Management', Cell H158
3. Assumed below ground portion (based on above/below ground ratio of EX-ACT default values for Plantation Zone 2)	13.9tC/ha	Sheet '5.Management', Cell L158
4. Default values are used for litter and soil carbon		
5. Assumed baseline level of degradation of forest plantations (see footnote for explanation)*	32.5%	

*Assumed annual carbon increment in **well-managed plantations** (based on measurements in Cuba) = 7.76tC/ha/year, giving a with-project total after 20 years of 83.5 + (7.76 x 20) = 238.7tC/ha; increment in poorly managed plantations is assumed to be 50% of this (3.88tC/ha), giving a without-project total after 20 years of 83.5 + (3.38 x 20) = 161.1tC/ha. The **without-project degradation status** is therefore calculated as (238.7 – 161.1)/238.7 = **32.5%** and the **with project status is 0%**.

Natural forests

Management will be improved over 5 x 100ha areas of natural forest in each of 7 forestry polygons (a total of 3,500ha), and 5 x 100ha areas of natural forest in each of 9 protected areas (Gunahacabibes, Los Pretiles, Viñales, Valle del Río Canimar, Cayos Sta. María, Lanzanillo-Pajonal-Fragoso, Las Picuas-Cayo del Cristo, Bahía de Nuevas Grandes - La Isleta and Caletones), and one 100ha block in Varahicacos (a total of 4,600ha), giving an overall total of 8,100ha.

The introduction of management improvements will be staggered, with one 100ha lot targeted each year in each forestry polygon and in each protected area, starting from year 2 and continuing to year 6. The mean starting point for management improvements is therefore assumed to be year 4. The project implementation period is therefore assumed to be 3 years (years 4-6) and the capitalization phase 14 years, giving a total accounting period of 17 years.

The bases for the carbon calculations are as follows:

1. Carbon content in natural forests, based on measurements in Cuba (tree portion only)	105.45tC/ha
2. Assumed above ground portion (based on above/below ground ratio of EX-ACT default values for Forest Zone 2)	85.0tC/ha
3. Assumed below ground portion (based on above/below ground ratio of EX-ACT default values for Forest Zone 2)	20.4tC/ha
4. Default values are used for litter and soil carbon	
5. Assumed baseline level of degradation of natural forests (see footnote for explanation)**	21%

Assumed annual carbon increment in **well-managed natural forests (based on measurements in Cuba) = 3.84tC/ha/year, giving a with-project total after 20 years of 105.45 + (3.84 x 20) = 182.25tC/ha; increment in **poorly managed natural forests** is assumed to be 50% of this (1.92tC/ha), giving a without-project total after 20 years of 105.45 + (1.92 x 20) = 143.85tC/ha. The Tier 2 **without-project degradation status** is therefore calculated as (182.25 – 143.85)/182.25 = **21%** (see EXACT Sheet 5.Management cell R145) and the **with-project status** is **0%.**

EX-ACT entries and results for forest management are as follows (please see “EXACT Ecovalor management” file):

Continent	Central America	
Climate	Tropical	
Moisture regime	Wet	
Dominant Regional Soil Type	LAC Soils	
Duration of the Project (Years)	Implementation phase	3
	Capitalisation phase	17
	Duration of accounting	20

Back

Use this part only if you want to refine the analysis with Tier 2 coefficients.

(default values are provided for your information only, while EX-ACT will use Tier 2 values automatically wherever specified)

Degradation level (% of biomass lost)		
Select level	Default	Tier 2
None	0	
Very low	10	
Low	20	21
Moderate	40	33
Large	60	
Extrem	80	

All values are in t of carbon per ha (tC/ha)

Type of vegetation that will be degraded	**Above-ground** Default	**Above-ground** Tier 2	**Below-ground** Default	**Below-ground** Tier 2	**Litter** Default	**Litter** Tier 2	**Dead wood** Default	**Dead wood** Tier 2	**Soil carbon** Default	**Soil carbon** Tier 2
Forest - Zone 1	141.0		52.2		3.65		0.0		60.0	
Forest - Zone 2	103.4	85.0	24.8	20.4	3.65	3.7	0.0		60.0	60.0
Forest - Zone 3	98.7		27.6		3.65		0.0		60.0	
Forest - Zone 4	37.6		15.0		3.65		0.0		60.0	
Plantation - Zone 1	70.5		26.1		3.65		0.0		60.0	
Plantation - Zone 2	56.4	69.6	11.3	13.9	3.65	3.7	0.0		60.0	60.0
Plantation - Zone 3	28.2		7.9		3.65		0.0		60.0	
Plantation - Zone 4	14.1		5.6		3.65		0.0		60.0	
Mangrove	86.6		42.4		0.70		10.7		49.0	

5.1. Forest degradation and management

AEZ map **Zone 1 = Tropical rain forest** **Zone 2 = Tropical moist deciduous forest** **Zone 3 = Tropical dry forest** **Zone 4 = Tropical shrubland**

Type of vegetation that will be degraded	**Degradation level of the vegetation** Initial State	At the end: Without project	At the end: With project	**Fire occurrence and severity** Without (y/n)	Periodicity (year)	Impact (% burnt)	With (y/n)	Periodicity (year)	Impact (% burnt)	**Area (ha)** Start	Without	*	With	*	**Total Emissions** (tCO2-eq) Without	With	**Balance**
Forest Zone 2	Low	Low	None	NO	1	100%	NO	1	100%	8,100	8,100	D	8,100	D	0	-853,222	-853,222
Plantation Zone 2	Moderate	Moderate	None	NO	1	100%	NO	1	100%	3500	3,500	D	3,500	D	0	-479,229	-479,229
Select the vegetation	Select level	Select level	Select level	NO	1	100%	NO	1	100%		0	D	0	D	0	0	0
Select the vegetation	Select level	Select level	Select level	NO	1	100%	NO	1	100%		0	D	0	D	0	0	0
Select the vegetation	Select level	Select level	Select level	NO	1	100%	NO	1	100%		0	D	0	D	0	0	0
Select the vegetation	Select level	Select level	Select level	NO	1	100%	NO	1	100%		0	D	0	D	0	0	0
Select the vegetation	Select level	Select level	Select level	NO	1	100%	NO	1	100%		0	D	0	D	0	0	0
Select the vegetation	Select level	Select level	Select level	NO	1	100%	NO	1	100%		0	D	0	D	0	0	0
Total Forest Degradation and Management															0	-1,332,450	-1,332,450

* Note concerning dynamics of change : "D" corresponds to default/linear, "I" to immediate and "E" to exponential (Please refer to the guidelines)

Tier 2

Components of the project	**Gross fluxes** Without	With	**Balance**	**Share per GHG of the Balance** (All GHG in tCO2eq) CO_2 Biomass	Soil	Other	N_2O	CH_4	**Result per year** Without	With	**Balance**
	All GHG in tCO2eq; Positive = source / negative = sink										
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	0	0	0				0	0	0	0	0
Degradation & Management	0	-1,332,450	-1,332,450	-1,043,633	-288,817		0	0	0	-66,623	-66,623
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0	0	0	0	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	0	-1,332,450	**-1,332,450**	-1,043,633	-288,817	0	0	0	0	-66,623	-66,623
Per hectare	0	-115	-115	-90.0	-24.9	0.0	0.0	0.0			

2) Reforestation

Emissions benefits related to reforestation are calculated on the “2. LUC” sheet of EX-ACT.

Forestry plantations will be established over a total of 3,500ha, with 250ha planted in each of the first two years of the project in each of the 7 polygons (500ha/polygon in total). Conservatively, the start of

the implementation phase is therefore taken to be year 2, giving an effective implementation phase of 5 years (out of the project life of 6), followed by an implementation phase of 15 years. Establishment success is estimated at 90%, giving an effective established area of 3,150ha.

These plantations will be established in areas currently dominated by the exotic invasive species marabú: this vegetation will be cleared prior to plantation establishment, but the cleared material will be used as bioenergy to substitute fossil fuels, so its clearance will have no net emissions impact. The starting land use in the carbon calculations is therefore taken to be grassland, with EX-ACT default values.

The bases for the carbon calculations are as follows (please see "EXACT Ecovalor plantations" file):

		EX-ACT reference
1. Area of plantations = 3,500ha planted x 90% success rate	3,150ha	Sheet 2.LUC cell M31
2. Baseline carbon content after clearance of marabú	Assumed to be default value for grassland	Sheet 2.LUC cell F31
3. Annual above ground carbon increment/ha in well-managed plantations (Tier 2)	4.98tC/ha/year	Sheet 2.LUC cell E158
4. Annual below ground carbon increment/ha in well-managed plantations (Tier 2)	2.78tC/ha/year	Sheet 2.LUC cell G158

EX-ACT entries and results for reforestation are as follows:

Continent	Central America	
Climate	Tropical	
Moisture regime	Moist	
Dominant Regional Soil Type	LAC Soils	
Duration of the Project (Years)	Implementation phase	3
	Capitalisation phase	17
	Duration of accounting	20

Type of vegetation that will be planted	**Growth rates for systems up to 20-yr old**			
	Above-ground		**Below-ground**	
	Default	**Tier 2**	**Default**	**Tier 2**
Forest - Zone 1	5.17		1.91	
Forest - Zone 2	3.29		0.66	
Forest - Zone 3	1.88		1.05	
Forest - Zone 4	1.88		0.75	
Plantation - Zone 1	7.05		2.61	
Plantation - Zone 2	4.70	5.0	0.94	2.8
Plantation - Zone 3	3.76		2.11	
Plantation - Zone 4	2.35		0.94	

2.2. Afforestation and Reforestation

AEZ map — Zone 1 = Tropical rain forest; Zone 2 = Tropical moist deciduous forest; Zone 3 = Tropical dry forest; Zone 4 = Tropical shrubland

Type of vegetation	**Fire Use?**	**Previous land use**	**Area that will be afforested/reforested**				**Total Emissions (tCO2-eq)**		**Balance**
that will be planted	(y/n)		Without	*	With	*	Without	With	
Plantation Zone 2	NO	Grassland	0	D	3150	D	0	-1,523,249	-1,523,249
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Select the vegetation	NO	Select previous use	0	D	0	D	0	0	0
Total Af-/Reforestation							0	-1,523,249	-1,523,249

* Note concerning dynamics of change : "D" corresponds to default/linear, "I" to immediate and "E" to exponential (Please refer to the guidelines)

Tier 2

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance All GHG in tCO2eq CO_2			N_2O	CH_4	Result per year Without	With	Balance
	All GHG in tCO2eq Positive = source / negative = sink			Biomass	Soil	Other					
Land use changes											
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	-1,523,249	-1,523,249	-1,523,249	0		0	0	0	-76,162	-76,162
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	0	0	0				0	0	0	0	0
Degradation & Management	0	0	0	0	0		0	0	0	0	0
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0	0	0	0	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	0	-1,523,249	**-1,523,249**	-1,523,249	0	0	0	0	0	-76,162	-76,162
Per hectare	0	-484	-484	-483.6	0.0	0.0	0.0	0.0			

TOTAL DIRECT CARBON BENEFITS

Improved management of plantations and natural forests	1,332,450tCO_{2eq}
Reforestation	1,523,249tCO_{2eq}
Total	**2,855,699tCO_{2eq}**

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