

**Final Evaluation of UNDP/GEF project:  
Mainstreaming and Sustaining Biodiversity Conservation in three  
Productive Sectors of the Sabana Camagüey Ecosystem**

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# 1 Acronyms and Abbreviations

AOP	Annual Operational Plan
AZCUBA	Sugar Cane Business Group (Grupo Empresarial Azucarero)
BD	Biodiversity
CDR	Combined Delivery Report
CGB	Forest Rangers
CIM	Marine Research Centre
CITMA	Ministry of Science, Technology and the Environment
CNAP	National Centre for Protected Areas
CPAP	Country Programme Action Plan
CPD	Country Programme Document
CUC	Cuban Convertible Peso
CUP	Cuban Peso
DMA	Environment Directorate (CITMA)
EA	Executing Agency
EFI	Integrated Forestry State Company (Empresa Forestal Integral)
EMED	Executive Company of Donations (Empresa Ejecutora de Donativos)
ENPFF	National Enterprise for the Protection of Flora and Fauna
FORMATUR	Tourism Training System of Cuba (Sistema de Formación para el Turismo de Cuba)
GEF	Global Environment Facility
GIS	Geographic Information System
IA	Implementing Agency
ICM	Integrated Coastal Management
IES	Ecology and Systematics Institute
IPF	Institute of Physical Planning

M&E	Monitoring and Evaluation
MINAG	Ministry of Agriculture
MINAL	Ministry of Food Industry
MINAZ	Ministry of Sugar Industry
MINCEX	Ministry of Foreign Trade and Foreign Investment
MINFAR	Ministry of Armed Forces
MININT	Ministry of Interior
MINTUR	Ministry of Tourism
MPA	Marine Protected Area
NGO	Non-governmental organization
NP	National Park
ONIP	National Bureau for Fish Inspections
PA	Protected Area
PIR	Project Implementation Report
PMU	Project Management Unit
ProDoc	Project Document
QOR	Quarterly Operational Report
RSC	Regional Service Centre
SNAP	National Protected Areas System
SRF	Strategic Results Framework
TE	Terminal Evaluation
UMA	Environmental Units
UNDP CO	United Nations Development Program Country Office
UNDP	United Nations Development Program
USD	United States Dollars
ZBREUP	Zone under Special Regime of Use and Protection

ZBRMIC

Zone Under Regime of Integrated Coastal Management

## 2 Executive Summary

Table 1: Project Summary Table

Project Title:	Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana Camagüey Ecosystem			
GEF Project ID:	43827		<i>At endorsement (Million US\$)</i>	<i>At completion* (Million US \$)</i>
UNDP Project ID:	3254	GEF financing:	4,119,498	4,050,728.78 (amount disbursed by FE but remaining funds earmarked)
Country:	Cuba	IA/EA own:		
Region:	LAC	Government:	22,032,000	54,229,980
Focal Area:	Biodiversity	Other:	1,521,178	1,521,178
FA Objectives, (OP/SP):	GEF 5, BD, SP2	Total co-financing:	23,353,178	59,801,887
Executing Agency:	Environment Agency (AMA) of the Ministry of Science, Technology and Environment (CITMA)	Total Project Cost:	27,472,676	63,852,615.78
Other Partners Involved:		ProDoc Signature (date project began):		March 2008
		(Operational) Closing Date:	Proposed: March-2014	Actual: Sep. 30, 2015

### Overview of objective and methodology for Final Evaluation

This Final Evaluation (FE) was undertaken between April and June 2015 and adhered fully to the UNDP/GEF guidelines and Terms of Reference for this consultancy. Key issues addressed were project relevance, effectiveness, efficiency, sustainability, and impact. The methodology included a detailed review of all relevant project documentation. This was followed by an 11-day mission involving extensive interviews with stakeholders, site visits to five provinces across the country, and a presentation of the initial evaluation findings to representatives of AMA, UNDP Cuba, the project's biodiversity advisors and outcome coordinators, Ministry of External Trade and International Relations (MINCEX), and the Department of International Affairs of CITMA (GEF Focal Point). Follow-up communication with the PMU to fill in remaining gaps and a detailed analysis of the findings led to the preparation of the draft and final reports. Finally, the complete report was translated into Spanish.

### Brief project description

The Sabana Camagüey ecosystem harbours high levels of marine and terrestrial biota and terrestrial endemism, associated with significant variety of habitats. The main threats to the nationally and regionally important biodiversity (BD) of SCE stem from the tourism, fisheries and agricultural/livestock sectors. The project goal is to protect the marine and coastal biodiversity of global significance in the productive landscapes and seascapes of the Sabana-Camagüey Ecosystem of Cuba, while contributing to the country's social and economic development. The project objective is to promote operational changes within three key productive sectors to enable biodiversity conservation in the SCE and to support these

changes through improvements to the enabling environment. This was to be achieved through four planned Outcomes:

*Outcome 1:* A strengthened enabling environment will exist for the financial, institutional, environmental and social sustainability of biodiversity conservation in the tourism, fisheries and agriculture-livestock sectors in the SCE

*Outcome 2:* The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE

*Outcome 3:* Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored.

*Outcome 4:* The declining sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the SCE.

## **MAIN FINDINGS**

### **Project Execution**

The Environment Agency managed this project efficiently and conscientiously. High levels of communication and coordination among the EA and key stakeholders played an important role in the effectiveness of the project. Project planning was carried out in a participatory manner. Moreover, the EA employed adaptive management successfully on various occasions to deal with changes in the national context in terms of socio-economic policies, extreme weather events and other factors. In terms of monitoring and evaluation, regular quarterly and annual reporting, visits to field sites and activities such as the inception workshop and Mid-Term Review were satisfactorily implemented. The project did experience some difficulties in monitoring some of the ecological indicators, particularly the marine ones, due to various factors such as unavailability of vessels, high costs of renting those that were available, difficulties obtaining permits to rent vessels for scientific use from tourism authorities, and the time lags in observing ecological changes.

### **Project Implementation**

As Implementing Agency for this project, UNDP effectively carried out its functions, including financial oversight and technical support, to support the achievement of project results. There was frequent communication between the PMU and the UNDP. UNDP monitored budgetary execution on an ongoing basis, participated in meetings to follow up on procurement issues, and processed payment requests efficiently. UNDP supported the preparation of the annual Project Implementation Reports (PIRs) and regularly visited provincial sites. It should also be noted that UNDP CO reviewed project publications before they went to print and advocated for an emphasis on communication and information dissemination. Moreover, the UNDP Regional Service Centre supported knowledge management by funding the publication of two documents to highlight project experiences.

### **Project Results and Sustainability**

This third phase of UNDP/ GEF support to the government of Cuba's intervention in the SCE focused on promoting Integrated Coastal Management and mainstreaming biodiversity conservation in the key productive sectors of tourism, fisheries and agriculture. The project successfully led to greater levels of coordination between CITMA and these sectors, thus strengthening inter-sectoral planning and environmental management. Valuable lessons were learned on integrating conservation in productive sector activities, such as the validity of developing policy instruments to support adoption of sustainable practices, the importance of widely disseminating pilot experiences to promote upscaling, and the need for long-term engagement with productive sectors to ensure lasting impact. It was considered highly relevant by stakeholders and benefitted from high levels of participation from a wide array of actors and

extensive inter-institutional collaboration. Co-financing amounts exceeded projections and contributed to significant project ownership.

In line with Outcome 1, the project led to a strengthened enabling environment for biodiversity conservation in productive sectors and enhanced sustainability. The project played a key role in the development and implementation of Integrated Coastal Management programs. An ICM methodology was adapted to the Cuban context and is now being used as a tool for environmental management. Seven Zones under ICM (so-called ZBRMICs) were officially declared in the SCE (as well as additional ZBRMICs outside of the SCE). Through the project, a wide variety of ICM measures were implemented, such as nature tourism, reforestation, protection of fisheries resources, and controlled livestock husbandry, among others. ICM Boards were set up for each of the ZBRMICs as a system of governance to oversee implementation of the ICM Programs. This is consistent with the greater level of decentralization in Cuba. A legal proposal for the establishment of an Advisory Board on ICM for the entire country was also developed through the project but is pending formal approval; this would be charged with conflict resolution and maintenance of an ecosystem-based approach. A second key result of this Outcome was environmental education and capacity building. A network of Capacity Building Centres for ICM was established with 20 such Centres in the SCE. Local governments, community members, CITMA specialists, productive sectors and others received extensive training and increased their level of understanding of the biodiversity values in the SCE, ICM and sustainable production.

The project disseminated lessons learned and information from the project, primarily through workshops, exchanges, audiovisual and printed material. The latter included publications on biodiversity, ICM, and sustainable financing, among others. The large amount of information produced through the three phases of intervention in the SCE is now available in an information repository. Media coverage, the production and airing of documentaries and participation in events served to increase project visibility. Further work to disseminate key project outputs to local and national stakeholders as well as within the UNDP and GEF systems would be useful to highlight the achievements and lessons learned through this biodiversity mainstreaming project, which represents one of the first of its kind in the Latin American and Caribbean region.

In order to enhance the financial sustainability of biodiversity mainstreaming, the project carried out research on sustainable financing, looking both at successful international models and at the specific pilot projects implemented through the project, for which economic valuations were carried out to assess the costs and benefits of different sustainable production practices. Such economic valuations were novel for Cuba and pave the way for future work on payments for environmental services. A proposal was developed for the Ministry of Tourism, which would involve charges to tour operators that would be reinvested in biodiversity conservation in productive sectors. This proposal is still being discussed and requires substantial follow-up in the future as this could represent an important financial mechanism for sustainability.

Numerous project achievements can be highlighted in the tourism, fisheries and agricultural sectors. For tourism, workshops were held to train tourism managers, tour operators, tourism workers, and personnel of the National Protected Areas System, reaching a total of 14,000 individuals over the course of the project. A fully equipped Centre for Sustainable Tourism Development was established within the School for Advanced Studies in Hospitality and Tourism of the province of Ciego de Avila (belonging to the FORMATUR system) and classrooms associated with the Centre were equipped in the remaining four provinces involved in the project, in order to carry out activities related to this sector. In terms of biodiversity conservation, the curriculum was strengthened and teachers trained. In addition, project funding supported the maintenance of the Coral Reef Early Warning Voluntary Monitoring Network. Several pilot projects for nature tourism were designed and established in association with the National Centre for Protected Areas, which has led to an increase in the numbers of tourists participating in such

activities (please see the recommendations section for particular issues that need to be addressed). The project had a significant impact on the development of tourism sector guidelines and planning strategies to promote biodiversity-friendly practices. For example, sustainable tourism indicators for ecologically sensitive areas (outside of protected areas) were designed and were validated through their application in 21 tourist hotels in the main SCE tourist zones. A manual of best practices in the hotel industry was developed and a manual of best practices in ecological gardening was produced. The project developed a draft national standard on the construction of roadways in fragile ecosystems (small cays), which is pending formal approval. In order to strengthen the incorporation of environmental criteria and considerations in planning for the tourism (and other) sectors, environmental planning was carried out and approved for nine municipalities, which will be integrated into existing land use plans for these territories.

Substantial biophysical information was collected to better understand the state of the fisheries, which supported the approval of key policies to ensure the sustainability of the fisheries, such as the national ban on bottom trawling in 2012. Training, technical assistance and exchanges for fishermen, inspectors and decision makers were carried out. Pilot projects to promote sustainable fishing alternatives were also put in place focusing on sponge cultivation, oyster cultivation and oceanic fisheries (demersal fisheries). These have provided tangible socio-economic benefits and some replication is already occurring.

With regard to biodiversity-friendly agriculture, livestock and forestry production, the project supported research and land use zoning at the level of productive units (UBPCs), as well as capacity building. Sustainable and diversified agricultural production models were tested. Buffalo management was strengthened to reduce environmental impacts on coastal ecosystems through training, purchase of materials, and the development of a draft national standard on the sustainable management of confined buffalo in coastal ecosystems, which is in the process of formal approval. The project supported the introduction of native tree species and trays with cells at nurseries. Reforestation and natural forest management were carried out, leading to an increase in forest coverage. An additional unexpected result of this Outcome was the development of a proposal for biological corridors, in light of the increased pressures on land through a recent government decision to allocate idle lands to individuals for agricultural production.

The project contributed to key impacts in terms of stress reduction and the creation of an enabling environment favoring BD conservation, through the training of productive sectors on how to mainstream biodiversity, development of tools such as best practice manuals, and contribution of data to support the approval of policies such as a national bottom trawling ban, to name a few. Overall, the project led to 3510.05 km<sup>2</sup> of seascape under biodiversity-friendly management in the fisheries sector, which includes 3498.58 km<sup>2</sup> under legal protection in fisheries reserves. Indirect benefits were experienced over an area of 27,877.74 km<sup>2</sup> of landscape and 4,811 km<sup>2</sup> of seascape. Through the project, 882 ha were reforested (both for conservation and for production in plantations) and a total of 41,809 ha of natural coastal forest was managed through the project.

A determination of the final project impact on indicators of the ecological status of key ecosystems is complicated by the fact that not all indicators were measured at project end and that external factors have a significant impact on the health of these ecosystems. Nevertheless, the available data generally pointed to positive global environmental benefits. The overall area of mangroves increased and coral reef coverage was maintained. There were no significant differences in fish biomass compared to the baseline in the sites that were assessed, as per the target in the Strategic Results Framework. In the case of seagrass beds, the results were mixed, likely due to the impact of bottom trawlers over many years and the lengthy recovery period. Sampling of contaminant loads associated with agricultural activities showed that some values remained stable, others decreased, and some increased; this was attributed to the fact that the monitoring was carried out in the rainy season while the baseline was established in the dry season. In addition to the project's environmental impacts, it put in place models for sustainable productive

practices, led to new jobs and increased incomes for local inhabitants of the Sabana Camagüey ecosystem.

As mentioned previously, further work to put in place financial mechanisms to reinvest funds in biodiversity mainstreaming are needed. The project did succeed, however, at promoting increased sectorial investments in biodiversity conservation. In terms of the institutional and governance framework, socio-political, and environmental issues, these are not considered to pose any substantial risks to sustainability.

### **Best practices**

- *High level of training and participation of local governments in project activities, such as CBCs and ICM Programs*
- *Extensive coordination with a large number of key stakeholders*
- *Excellent communication among the national, provincial and municipal levels of coordination*
- *Pilot projects addressed productive sector interests as well as Ministerial objectives and helped address community problems*
- *Emphasis on education and environmental training at all levels, including the community level*
- *South-South cooperation for exchanges of information and experiences and to take advantage of regional expertise*
- *Synergy with other projects to maximize efficiencies*
- *Development of regulatory norms and best practice manuals based on project results in order to increase sustainability of project impact*
- *Incorporation of ICM in the curricula of educational/ technical training centres*
- *ICM Programs were developed in a participatory manner and the associated ICM Boards incorporate all key stakeholders*
- *Pilot projects were designed during project preparation phase*
- *Productive sectors managed activities to integrate biodiversity conservation directly*
- *Continuity of UNDP/GEF support for the Sabana Camagüey ecosystem over three phases increased impact. As an example, actions carried out during Phase 3 of the project built on the land use planning carried out in Phase 1 of the project, which identified ecologically sensitive areas with high biodiversity value, as well as on the Strategic Plan that was developed.*

### **Recommendations to build on lessons learned and to guide future actions**

#### Recommendations related to project design

- *Carefully select environmental impact indicators to ensure that they are realistic and that changes can be observed in time span of project*
- *Clearly explain the methods used to establish baseline values for all indicators in the ProDoc*
- *Dedicate sufficient resources in M&E Plan budget to monitor ecological indicators, including at project end*
- *Negotiate agreements during PPG phase for the use of vessels in coastal/marine monitoring*

#### Recommendations to guide project execution

- *Report on indicators with quantitative data if the baselines do so and employ the same units/methods of measurement to facilitate comparison*
- *Measure all indicators at project closure to determine final project impact*
- *Obtain the commitment of relevant institutions to track both co-financing and leveraged resources*
- *Ensure that all necessary materials for productive technological innovations are purchased*
- *Carry out final workshop before final evaluation*

#### Recommendations to guide future projects

##### Recommendations for financial sustainability:

- *Continue to develop financial mechanisms to support the implementation of sustainable productive activities in key sectors that affect biodiversity*
- *Promote institutional coordination at the central level to achieve an integrated vision on ICM and secure agreement on relevant financial mechanisms*

##### Recommendations to maximize impacts of pilot sustainable productive sector activities and promote further replication/upscaling

- *Publish succinct pamphlets on the pilot projects to promote replication*
- *It is recommended that CNAP follow-up on the nature tourism products developed with the project through the National Commission on Sustainable Tourism to ensure that there is sufficient support for their management and promotion*
- *Continue promotion of nature tourism products*
- *Translate nature tourism material into English, including at Visitor Centres*
- *Ensure that the pilot project experiences under the direction of AZCUBA are shared with MINAG*

##### Recommendations to maximize environmental impact:

- *Follow-up with IPF and tourism developers to ensure that BD considerations are incorporated in the construction and operation of new tourism developments, including in the cays of the province of Camagüey*
- *Develop biological corridors to consolidate BD conservation in the landscape, including protected and productive areas*
- *Follow up on system of environmental indicators for productive sectors and on sustainable tourism indicators to ensure their formal approval*
- *Promote use of native species in coastal reforestation*
- *Continue to provide training and environmental education in the long-term*

##### Recommendations for further information dissemination and knowledge management:

- *Increase accessibility of the information in the repository*
- *Earmark funds to continue to print out key project outputs and disseminate project results and experiences within Cuba and internationally*
- *UNDP Cuba Country Office to ensure that lessons learned from this BD-2 project and key documents that systematize the project experience are shared within the UNDP system and with GEF*

Table 2: Ratings of Project Performance

<b>Criteria:</b>			
<b>1. Monitoring and Evaluation</b>		<b>2. IA&amp; EA Execution</b>	
	<b>Rating</b>		<b>Rating</b>
M&E Design at Entry	Satisfactory	Quality of UNDP Implementation	Highly Satisfactory
M&E Plan Implementation	Satisfactory	Quality of Execution- Executing Agency	Highly Satisfactory
Overall quality of M&E	Satisfactory	Overall quality of Implementation/ Execution	Highly Satisfactory
<b>3. Assessment of Outcomes</b>		<b>4. Sustainability</b>	
	<b>Rating</b>		<b>Rating</b>
Relevance	Relevant	Financial resources:	Likely
Effectiveness	Satisfactory	Socio-political:	Likely
Efficiency	Highly Satisfactory	Institutional framework and governance:	Likely
Overall Project Outcome/Results rating	Satisfactory	Environmental:	Likely
		Overall likelihood of sustainability:	Likely
Impact	Significant		

Ratings for Effectiveness, Outcomes, Efficiency, M&E, I&E Execution are on a *six-point scale of Highly Unsatisfactory to Highly Satisfactory*. Ratings of sustainability are on a four-point scale from Highly Unlikely to Likely. Ratings of relevance are on a two-point scale (Relevant or Not relevant) and ratings of impact are on a three-point scale (Negligible, Minimal and Significant).

## **3 Introduction**

### **3.1 Purpose of the Evaluation**

1. This Final Evaluation (FE) is a compulsory requirement of the Global Environment Facility (GEF) and the United Nations Development Program (UNDP) and was instigated by the UNDP Cuba Country Office in its role as Implementing Agency (IA) for this project. The evaluation adheres to the guidance, rules and procedures for such evaluations as defined by UNDP and GEF.

2. UNDP GEF-funded project evaluations have the following objectives (UNDP 2012):

- To promote accountability and transparency, and to assess and disclose the extent of project accomplishments;
- To synthesize lessons that can help to improve the selection, design and implementation of future GEF financed UNDP activities;
- To provide feedback on issues that are recurrent across the UNDP portfolio and need attention, and on improvements regarding previously identified issues.
- To contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefits;
- To gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

### **3.2 Key Issues Addressed**

3. As per UNDP/GEF guidelines, this Final Evaluation assessed the following five criteria:

- Relevance, defined as the extent to which the activities are suited to local and national development priorities and organizational policies, taking into consideration changes over time.
- Effectiveness, that is, the extent to which the results have been achieved or the likelihood of their achievement.
- Efficiency: the extent to which results have been delivered with the least costly resources possible, also called cost-effectiveness or efficacy.
- Sustainability: the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be financially, socially and environmentally sustainable.
- Impact: verifiable improvements in ecological status, verifiable reductions in stress on ecological systems, or indications that progress is being made towards achievement of stress reduction and/or ecological improvement (through process indicators).

4. The report covers the following main aspects: introduction to the evaluation; summary of project; analysis of project design and implementation (including the M&E system); level of achievement of project results; likely sustainability of project outcomes; conclusions, best practices, lessons learned, and recommendations to guide future projects. As per the Terms of Reference (TORs), various issues were rated on a scale that ranges from Highly Satisfactory to Highly Unsatisfactory.

### 3.3 Methodology of the Evaluation

5. The Final Evaluation involved preparatory work, a 10-day in-country mission, and drafting of the final evaluation report. Details are provided in the following paragraphs:

#### A) Evaluation Preparation:

6. The preparatory phase included a review of all relevant project documentation, such as the Project Document, annual Project Implementation Reviews (PIRs), Annual Operational Plans (AOPs), Combined Delivery Reports (CDRs), Quarterly Operational Reports (QORs), the inception report, Mid-term Evaluation report, and a wide variety of other project products. The documents studied are listed in Annex 3.

7. The Lead Project Evaluator participated in a teleconference with the project's Regional Technical Adviser (Lyes Ferroukhi) from the UNDP Regional Service Centre for Latin America and the Caribbean (RSC LAC) to review expectations for the evaluation and issues to assess in detail.

8. An Inception Report was prepared with a mission programme and further details of the methodology for the evaluation.

#### B) Evaluation Mission:

9. The evaluation team met with the Environment and Energy Unit of UNDP Cuba to discuss UNDP's perceptions of the project's achievements, constraints and lessons learned and to review the mission programme. Additional meetings and communication took place in Havana with national coordinators of the Project Management Unit, project advisors, and key institutions such as the Environment Directorate of CITMA, Tropical Geography Institute, Centre of Fisheries Research, FORMATUR (Ministry of Tourism), AZCUBA, National Enterprise for the Protection of Flora and Fauna (ENPFF, which belongs to the Ministry of Agriculture), and the Institute of Physical Planning (IPF).

10. In addition to the meetings in Havana, field visits were carried out in the five provinces that participated in the project, namely, Matanzas, Villa Clara, Sancti Spiritus, Ciego de Ávila and Camaguëy. The list of stakeholders interviewed and/or who participated in meetings can be found in Annex 1 of this report, and includes diverse actors such as provincial CITMA delegates and project coordinators and, municipal government representatives, ICM specialists (directors of the Capacity Building Centres for ICM in the municipalities), agricultural and fisheries cooperatives, a representative of the State Forestry Service, community members and others.

11. On the last day of the mission, the Lead Project Evaluator gave a presentation of the initial findings to the UNDP CO, the project coordinators from AMA, project biodiversity advisors, Outcome coordinators, representatives of the Ministry of External Trade and International Relations (MINCEX), and the Department of International Affairs of CITMA (GEF Focal Point) and the President of the Environment Agency.

12. The mission itinerary is included in Annex 4.

#### C) Report preparation:

13. In the process of preparing the final report, further information was requested of the UNDP CO and the Project Management Unit (PMU) to obtain additional documents and to seek clarification on different issues. The project material was reviewed with a focused attention on project outcomes and outputs as well as sustainability. A detailed analysis of the findings of the mission and of the project information was undertaken and a draft report prepared in English, as per the guidelines and Terms of Reference (please see Annex 5 of this report).

14. The second international consultant and the national consultant reviewed the draft and provided input, and the report was then translated it into Spanish. The report was then reviewed by the Executing Agency (EA) and the IA and a final report was prepared incorporating the feedback.

### **3.4 Structure of the Evaluation**

15. The structure of the Final Evaluation adhered to the Terms of Reference prepared by UNDP Cuba and approved by the UNDP-GEF Regional Service Centre (RSC) (please see Annex 5). UNDP Guidelines for Evaluators as well as GEF evaluation policies were followed, as well as the specific expectations of the Implementing Agency (IA), Executing Agency (EA), and UNDP RSC.

## **4 Project Description and Development Context**

### **4.1 Project Start, Expected Duration and Funding**

16. The Project Document (ProDoc) was signed in March 2008 with a planned closure date of March 2014 (6-year implementation period). The first disbursement was made in June 2008 and the inception workshop also took place that same month. The total GEF project grant was USD 4,119,498 and committed co-financing was 23,353,178 in local currency.

17. The project received an extension from March 2014 to March 2015, such that the final project duration was seven years. Given the need to conclude a few specific activities, financial closure will take place in September 2015.

### **4.2 Problems that the Project Seeks to Address**

18. The Sabana Camaguëy ecosystem is located in an area of approximately 465 km in the central north zone of Cuba, between Punta Hicacos in the west and Nuevitás Bay in the east. The main threats to the biodiversity (BD) of the Sabana Camaguëy ecosystem (SCE) stem from the tourism, fisheries and agricultural/livestock sectors. Tourism infrastructure in the cays of the Sabana Camaguëy archipelago has resulted in substantial habitat fragmentation, land conversion, impacts on flora and fauna and introduction of exotic/ invasive species on several of the cays. Causeways have led to changes in natural hydrological and sediment dispersion patterns and biological patterns of fish and marine biota. Tourism operations often employ management practices that harm biodiversity, such as failure to adequately treat wastewater or dispose of solid waste and use of exotic ornamental plants. Tour operators can also harm ecosystems, such as coral reefs, through pollution and the inappropriate anchoring of diving boats.

19. In terms of the fishing sector, overfishing, use of unsustainable fishing gear and practices and

inadequate management of aquaculture have contributed to declining fish stocks and negative impacts on marine ecosystems. Overfishing has resulted in changes to the trophic balance in coral reefs and to a decline in average coral cover. In addition, illegal fishing activity has led to reductions in key species. Fishing stocks have also been seriously impacted by the use of gear such as set nets and bottom trawls, and practices such as fishing in spawning and nursery areas. The aquaculture facilities that are present in the SCE have been associated with wastewater problems, the escape of cultured species, and eutrophication. In addition, the building of causeways and other infrastructure has had negative impacts on marine ecosystems and fisheries stocks.

20. Coastal and marine biodiversity has also been affected by the agriculture and livestock activities taking place on land through soil and water degradation (inappropriate land preparation techniques, high run-off rates, excessive extraction of groundwater, etc.). This can affect seagrass beds and associated biota, and lead to contamination from agrochemicals and salinization of coastal areas, among other impacts. Livestock management practices, including the increase in wild water buffalo populations, have been associated with loss of native vegetation and soil erosion. The production of solid and liquid agricultural wastes without sufficient agricultural waste treatment policies and processes represents another problem for BD in the SCE. Finally, non-native species are often used in reforestation with the result that the native coastal forest ecosystems, along with the ecosystem services they provide, are being diminished.

21. The main barriers that prevent these threats from being adequately addressed as described in the ProDoc include:

- Limited integrated planning and institutional coordination
- Incomplete regulatory framework and guidelines governing sectoral impacts on biodiversity.
- Information gaps on biodiversity and integrated coastal management
- Low awareness and understanding of biodiversity issues and sustainable development options
- Productive sector priorities focused on short-term economic benefits
- Absence of models for biodiversity-friendly alternative livelihoods
- National economic structures

22. The project design specifically addresses these barriers.

### **4.3 Immediate and Development Objectives of the Project**

23. The Project Goal is to protect the marine and coastal biodiversity of global significance in the productive landscapes and seascapes of the Sabana-Camagüey Ecosystem of Cuba, while contributing to the country's social and economic development.

24. The Project Objective is to promote operational changes within three key productive sectors to enable biodiversity conservation in the SCE and to support these changes through improvements to the enabling environment.

25. The following four Outcomes were identified to achieve the Project Objective:

*Outcome 1:* A strengthened enabling environment will exist for the financial, institutional, environmental and social sustainability of biodiversity conservation in the tourism, fisheries and agriculture-livestock sectors in the SCE

*Outcome 2:* The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE

*Outcome 3:* Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored.

*Outcome 4:* The declining sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the SCE.

#### **4.4 Expected Results**

26. The Strategic Results Framework (SRF) contained in Section II of the ProDoc presents the Project Objective and four Project Outcomes, including specific indicators, baselines and targets. The project is expected to lead to substantial global environmental benefits. The SCE is regionally important as a result of the high diversity of marine and terrestrial species, significant levels of endemism of terrestrial flora and fauna, and substantial numbers and diversity of migratory birds that depend on the area en route from North America to Southern destinations. The project was designed to benefit key species, such as endemic plant and animal species, flamingos and other threatened birds, marine turtles, manatee, dolphins, crocodiles and others. In addition, the project aims to contribute to the maintenance of globally important ecosystems in cays, marine shelf and mainland watersheds, including mangrove forests, dry forest and coastal shrub systems, coral reefs and seagrass beds. The selected project impact indicators related to biodiversity include measurements of the biological health of coral reefs, seagrass beds and mangroves, measurements of the biological health of indicator fish species, the area of seascape benefitting from biodiversity friendly management by productive sectors (sustainable fisheries) and the area within SCE benefitting indirectly over the long-term by changed productive sectors.

#### **4.5 Main Stakeholders**

27. The main stakeholders involved in the project are described in detail in the ProDoc in the Stakeholder Analysis and in the Annex containing the Stakeholder Involvement Plan, including their mandates, interest in the project and possible conflicts.

28. The Environment Agency (AMA) within the Ministry of Science, Technology and Environment (CITMA), was the project's Executing Agency. AMA coordinated the project's intersectoral activities under Outcome 1, including the establishment of the Integrated Coastal Management Authority, the information repository, capacity building network for ICM, and sustainable financing. Various institutes belonging to AMA ( Institute of Systematic Ecology (IES), Institute of Oceanology (IDO), and Institute of Tropical Geography (ITG)), together with the Direction of International Affairs of CITMA, and the CITMA Provincial Delegations participated in the project. The Ministries of Tourism, Fisheries, Agriculture and Sugar Industry coordinated the technical groups for Outcomes 2-4 and guided implementation of the pilot projects in the productive sectors, policy and legal changes and capacity building. This was the first time in the three phases of the GEF intervention in Sabana Camagüey that the productive sector Ministries assumed these responsibilities (as opposed to CITMA) and that they requested the financial resources for these activities. The ProDoc indicates that the Ministries were actively involved in the design of the project and perceived clear benefits to their participation in the project. In terms of the Ministry of Tourism, the project provided an opportunity for it to diversify the tourism products on offer through the promotion of nature-related tourism and development of best practice manuals to address BD conservation. The project supported the efforts of the Ministry of Food

Industry (which includes Fisheries) to reverse the declining fishing stocks and provide fisherfolk with alternative livelihoods. The Ministry of Sugar Industry (now AZCUBA), which is responsible for the conversion of lands that had been devoted to sugar cane production to other land uses, benefitted from sustainable agricultural, livestock and forest management models. The mandate and project role of other Ministries, regional, provincial and local governments and entities as well as NGOs is described in the Stakeholder Involvement Plan of the ProDoc.

## 5 Findings

### 5.1 Project Design/ Formulation

(Satisfactory)

- **Analysis of project objectives and components, Strategic Results Framework (project logic/strategy, indicators)**

29. The Project logic was clearly presented with four Outcomes, one focused on intersectorial aspects, sustainability of actions to mainstream BD conservation in the productive sectors and improved planning and three Outcomes focusing on each of the main sectors affecting BD (tourism, fisheries, and agriculture). The proposed interventions were appropriate to address the main barriers that have been preventing the threats to marine and coastal biodiversity in the SCE from being effectively tackled. The ProDoc included substantial detail on each of the Outcomes as well as on outputs and activities, which helped guide project execution. In addition, the pilot projects were designed in detail and agreed upon with local stakeholders during the project preparation phase, which proved very useful in directing activities. This sped up the start-up of the pilot projects and also permitted sufficient time for their replication to other sites. The pilot projects were designed to support local livelihoods while promoting sustainable productive activities. This was particularly important in the context of major policy changes in Cuba, including the change in land use of approximately one million hectares of land from sugar cane production to other land uses and the associated closure of sugar cane plants, which led to approximately 14,000 people for whom alternative jobs needed to be found. The project design adopted a strategic approach in identifying possible feasible alternative livelihoods on these converted lands. In addition, during project implementation, set nets were banned in 2008 and bottom trawling was banned nationwide in 2012, such that the promotion of the three different fisheries options identified at the project design stage was also highly relevant.

30. It should be noted that the project builds strategically on the achievements of the first two phases of GEF intervention in the SCE. The first two phases focused on elements such as development of an Environmental Strategic Plan for the region, establishment of priority protected areas, setting up of a framework for Integrated Coastal Management, establishing biodiversity monitoring, and strengthening sustainable tourism guidelines. This third phase was focused on actions outside of protected areas by working with the main productive sectors that affect BD in the land and seascape, setting up the enabling environment to support changes in the productive sectors and strengthening sustainability of project impacts. The decision to adopt a BD-2 approach<sup>1</sup> provided added value to this third phase and enabled Cuba to gain experience in integrating BD conservation with productive sectors. It should be noted that a substantial part of the budget was allocated to the productive sectors. In addition, the design and implementation of environmental planning and Integrated Coastal Management Programs added value to this third and final GEF project intervention in the Sabana Camagüey ecosystem.

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<sup>1</sup> As per GEF Biodiversity Focal Area, Strategic Outcome 2: Mainstreaming Biodiversity in Productive Sectors.

31. The Strategic Results Framework was well formulated, the indicators included were generally "SMART"<sup>2</sup> and quantitative baseline and target values were included for all of them. However, some of the ecological indicators and targets were later considered ambitious by the Implementing Agency (IA) and Executing Agency (EA). Specifically, at the Objective level, four impact indicators were identified to assess project impact on key ecosystems and selected indicator fish species and to determine the area directly and indirectly benefitting from changes to the productive sectors. It proved difficult to measure the expected changes in some of these indicators after the seven-year project, especially because some depended on assumptions such as the ban on bottom trawling being in place by project start-up (which did not occur until 2012). Please see Table 5 and section on Global Environmental Benefits for further detail. At the Outcome levels, a relatively large number of indicators was selected to measure project impacts in the three productive sectors. A few of the indicators at the Outcome level also proved rather ambitious such as the "increase in revenues from taxes and fees on tourism activities invested in biodiversity conservation within the SCE", particularly because such financial mechanisms had never before been implemented in the Cuban context. For Outcome 4, the stakeholders interviewed felt that the targets for some of the pilots were too high with respect to the production of crops, which would have little impact on biodiversity conservation compared to reforestation activities.

32. One aspect of the project design that was overly ambitious in the Cuban context was the design of a meta-database with links to individual databases; it was assumed that access to this information system would be fully internet-based but this proved difficult given the limited internet connectivity and narrow broadband width in the country. The costing of this element during project implementation proved prohibitive at around USD 250,000, and consequently this element had to be redefined. An additional element of the ProDoc that in hindsight might not have been the most appropriate was the creation of an Integrated Coastal Management Authority at the ecosystem level with economic independence to manage and to protect biodiversity in the territory; this was not deemed feasible during project implementation and the decision was made to develop Integrated Coastal Management authorities at the local level, in addition to an ICM Advisory Body (this is still in the proposal stage).

33. Finally, there was an error in the target value for one of the indicators; the target for the "area within the SCE benefitting indirectly over the long term by changed productive sectors in the terrestrial landscape" was 22,800 km<sup>2</sup>, when this figure actually exceeded the total area of the watersheds of 19,800 km<sup>2</sup>. The target could therefore not possibly have been met.

- **Assumptions and Risks**

34. The following risks were included in the Project Document:

- The three levels of government (national, provincial and local) and various sectors (tourism, fisheries, agriculture) cannot agree on coordinated efforts for resource management
- The Ministry of Fisheries (now Ministry of Food Industry) is unwilling to establish and enforce strong fisheries regulations
- The Ministry of Sugar (now AZCUBA) chooses to adopt a short-term economic basis for deciding on appropriate uses of converted sugar cane producing lands.
- The Ministry of Tourism is unwilling to develop options apart from the traditional and profitable "sun and beach" model.

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<sup>2</sup> Specific, measurable, achievable, realistic and time-bound.

35. All had low risk ratings, with the exception of the last, which was given a medium risk rating. Appropriate mitigation measures were identified for each of these risks. As is usually the case with UNDP/GEF projects, it would have been useful to have included the risk of climate change and how this issue could potentially affect achievement of the proposed project objectives, and to have identified associated mitigation measures where feasible. Additional risks were later identified and included in project PIRs, such as hurricanes, procurement issues and institutional changes.

- **Planned Stakeholder Participation**

36. The main stakeholders with a vested interest in the project were described in the Stakeholder Analysis section of the ProDoc, including the Ministry of Science, Technology and Environment (CITMA), and the four productive sector Ministries, namely, Ministry of Tourism, Ministry of Agriculture, Ministry of Fisheries and Ministry of Sugar Industry. The ProDoc also provided detailed information on all stakeholders in terms of their responsibilities and proposed form of participation in the project. A Table with stakeholder mandates, possible conflicts and conflict avoidance measures was carefully prepared, reflecting a sound analysis of planned stakeholder participation (please see Section II, Part IV: Stakeholder Involvement Plan of ProDoc for more details). The Stakeholder Involvement Plan also included a list of all the stakeholders that were consulted during project preparation, and a description of the Information dissemination, consultation, and related activities carried out in the PPG phase.

- **Replication Approach**

37. The project design included a strong replication strategy, with a number of elements to maximize upscaling during and after the project. The ProDoc included plans, targets and budget allocations for pilot project replication during the project implementation period. In addition, there is potential for further replication within the five provinces involved in the project, as they also have Southern coastal lines, and beyond to other provinces in Cuba and to other countries in the Caribbean. Various project elements included in the design that strengthen the enabling environment for mainstreaming BD conservation in productive sectors support replication, such as increased technical capacities, sustainable financing and strengthened policies. The many aspects of the project that responded to sectoral interests, such as the promotion of nature tourism and small livestock rearing with the use of ecological fertilizers, also supported replication. Finally, information dissemination and wide participation of stakeholders, including from the productive sectors, facilitate replication of project achievements. Information sharing was initially planned through the Capacity 2015 Project as part of the Integrated Learning and Application Network for countries in the region.

- **UNDP Comparative Advantage**

38. UNDP Cuba had a strong comparative advantage to implement this project due to its extensive experience in implementing environment and natural resource projects, including the first two phases of the GEF interventions to support biodiversity conservation in the Sabana Camaguëy ecosystem. The agency has had an office in Cuba since 1975, which facilitates the provision of administrative and technical guidance and financial oversight. The Country Office's portfolio in the Environment and Energy Unit includes 16 projects at the moment, including four in the biodiversity focal area (three Full-Sized Projects and one Enabling Activity). The Unit is staffed by three Program Officials and two Program Assistants, as well as four staff members working on specific projects. UNDP Cuba also acts as the Implementing Agency for the GEF Small Grants Program (GEF SGP), which provides funding for community-based and collaborative management initiatives, including in the biodiversity focal area. As will be described later in this report, the project was able to achieve synergies with the SGP.

- **Linkages between Project and Other Interventions within the Sector and Lessons from Other Relevant Projects Incorporated Into Project Design**

39. First and foremost, it is important to mention that this third phase of the GEF intervention in Sabana Camaguëy took into consideration and built on the achievements and lessons learned from the first two phases. The third UNDP/GEF project in the SCE that is the subject of this evaluation builds on elements such as the strategic planning, strengthening of the protected areas in the ecosystem and biodiversity monitoring, among other actions carried out with the first two projects.

40. The ProDoc also details how the project will coordinate and share information and lessons learned with the following environmental projects/ initiatives under development or implementation at the time of writing of the ProDoc:

- UNDP-GEF project “Demonstration of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean”;
- “Integrating Watershed & Coastal Area Management in Caribbean SIDS (IWCAM)”, a regional project of 13 Caribbean countries;
- GEF project “A Transboundary Diagnostic Analysis and Strategic Action Programme for the Gulf of Mexico Large Marine Ecosystem (GOM/LEM)” (note that Cuba did not end up participating in this initiative);
- GEF Small Grants Programme (SGP);
- UNDP-GEF project “Strengthening the National System of Protected Areas”;
- Proposed GEF Country Programme Partnership (CPP), which will provide support to Cuba in combating land degradation, desertification and drought.

## **5.2 Project Implementation- Monitoring and Evaluation (Design at entry and Implementation)**

*(Overall quality of M&E: Satisfactory)*

- **Monitoring and Evaluation Design at entry (Satisfactory)**

41. The design of the Monitoring and Evaluation Plan is rated as Satisfactory. The ProDoc included a summary of the M&E plan and an Annex with greater details on M&E activities, including a project inception workshop and preparation of inception report, quarterly progress reports, annual project reviews/project implementation reports (APRs/PIRs), periodic monitoring through site visits, mid-term review, final evaluation, annual audits, learning, and knowledge sharing. All M&E activities were separately budgeted with responsible parties assigned. The total budget for implementing the M&E plan was US\$ 184,500, and in the end approximately USD 140,000 was spent. The allocation of additional funds during project implementation to M&E could have facilitated the monitoring of various indicators at project closure, given the significant unexpected increases in the cost of renting boats for marine monitoring.

42. In addition to the description of the standard M&E activities, the M&E section of the ProDoc provided information on the technical and scientific monitoring protocols to be used, which were developed during the previous two phases of the GEF intervention in the Sabana Camaguëy region.

43. The Strategic Results Framework (SRF) included clear and quantitative Objective and Outcome level indicators. However, as detailed in the Project Design section, some of these indicators were deemed

ambitious and difficult to measure in the timespan of the project.

- **Monitoring and Evaluation Implementation (Satisfactory)**

44. The EA implemented its M&E functions diligently. An inception workshop was carried out June 11-12 2008 with participation of 43 individuals representing a wide array of institutions, such as UNDP RSC, UNDP CO, different levels of CITMA and representatives of the productive sectors. This was a useful forum to discuss issues that could affect project performance, to identify necessary adjustments to the project strategy based on changes in the project context, and to present the project's Monitoring and Evaluation Plan, among other issues that are reflected in the inception report.

45. The Strategic Results Framework guided project implementation. In addition, project reporting during project implementation was satisfactory. The PMU regularly submitted QORs and PIRs, with the exception of QORs in the beginning of the project when two major hurricanes caused project delays. There were no problems noted in terms of the candor of reporting or quality of the reports. The tracking tool for BD2 projects was completed in 2009, 2010 and 2012 (at the time of the Mid-Term Evaluation). The final tracking tool was submitted in June 2015; it was filled out comprehensively and additional detail was provided for various questions.

46. The national coordinators regularly visited the provincial project sites for monitoring purposes and to carry out checks of the equipment and supplies purchased with project funds. In addition, as detailed in the Project Execution section, the project coordinators maintained regular communication and provided regular support to stakeholders.

47. A Mid-Term Review was carried out in January 2012. The MTR resulted in a detailed assessment of project progress and made a number of recommendations, such as the importance of focusing efforts on ensuring the financial sustainability of the project and the need to make some adjustments to Outcome 4 to achieve expected results. The majority of the recommendations were addressed by the PMU, with a few that were not considered feasible in the remaining time period of the project, such as adjusting indicators in the Strategic Results Framework. Financial audits were carried out in 2009, 2010, 2011 and 2013, as mentioned in the Finance section of this report, with no major findings noted.

48. A Project Steering Committee was established including representatives of AMA, Ministry of Tourism, MINAL, MINAGRI and AZCUBA. This high-level body met at project inception and after the Mid-term Evaluation and will meet again at project closure. In addition, the full Project Management Unit carried out project monitoring functions by reviewing achievements during annual meetings, which included the national project coordinators, provincial coordinators, coordinators of each of the project outcomes and project advisors. These annual meetings were considered by stakeholders to have been very useful in facilitating information exchange and guiding project execution.

49. Some difficulties were experienced with regard to monitoring of some of the ecological indicators, despite the fact that the EA made substantial efforts to do so. This was due to the difficulty of Cuban personnel to obtain permits to rent boats belonging to tourist enterprises; the lack of available boats to carry out monitoring at the times required; and the increased costs of renting boats. This set of circumstances was largely outside of the control of the PMU, and it is for this reason that the rating for M&E implementation is still Satisfactory. Unfortunately, it contributed to a situation in which the majority of the ecological indicators were not measured at project closure, although they were measured between 2011 and 2013, depending on the indicator. Given that one of the obstacles faced for final monitoring was monetary, the Recommendations section specifies that more funding should be budgeted for future projects, to take into consideration possible increases in the associated costs.

50. Another issue related to monitoring was that progress on indicators was not always reported in the same way or using the same method of measurement as the established baseline and target values. This makes it more difficult to monitor progress, especially for those not directly involved in the project. For example, the sectorial investment figures were not always reported in the PIRs as cumulative totals (but as annual figures), even though the targets were cumulative. Also, the total area of mangroves was not reported as such in the 2011 PIR but rather simply as a description (this was corrected in the 2014 PIR).

51. The ratings provided in the latest PIR in 2014 were relatively consistent with those included in this Final Evaluation, which was carried out in 2015, as shown in the following table.

2014 PIR:

	<i>Rating of Progress toward meeting development objective</i>	<i>Rating of implementation progress</i>
National Project Manager	Satisfactory	Satisfactory
UNDP Country Office	Highly Satisfactory	Satisfactory
UNDP Regional Technical Adviser	Highly Satisfactory	Satisfactory

*FE Ratings:*

Overall quality of Monitoring and Evaluation	Satisfactory
Overall quality of project Implementation/ Execution	Highly Satisfactory
Overall quality of project outcomes	Satisfactory

### **5.3 Implementing and Executing Agency –Implementation, execution, coordination and operational issues**

*(Overall quality of Implementation/Execution: (Highly Satisfactory))*

#### **Implementing Agency Execution (Highly Satisfactory)**

52. UNDP effectively took on the responsibilities of Implementing Agency, as well as additional tasks to support achievement of project results. Communication between the PMU and the UNDP was said to have been smooth and regular. UNDP provided ongoing support for project implementation on a variety of issues, including financial oversight and technical support. With regard to procurement, UNDP participated in regular meetings with the EA and MINCEX to provide follow-up given the delays and obstacles in purchasing/ importing goods needed by the project. UNDP also regularly followed up on budgetary execution and processed payment requests efficiently. According to interviews, UNDP Finances Unit, Monitoring and Evaluation Unit and Energy and Environment Unit all carried out their functions effectively with a view to solving any problems that arose, demonstrating competency, professionalism and commitment.

53. In terms of the preparation of the annual Project Implementation Reports (PIRs), UNDP support included: (i) preparing guidelines for the project team to complete the PIR and explaining changes to the template, etc. (ii) holding meetings with the project team to conduct technical discussions, provide advice

and seek clarifications regarding indicators, outputs, lessons learned, adjustments, etc..

54. UNDP visited provincial sites on various occasions and participated in different workshops. In addition, the UNDP Permanent Representative attended an Environment Week event in one of the participating provinces, which helped increase project visibility. UNDP CO provided support in terms of the communication of project achievements and has been pushing this issue in particular since 2011. This included reviewing project publications before they went to print. The UNDP Regional Service Centre also funded the publication of two user-friendly documents on the experiences of the project in 2011.

### **Executing Agency Execution (*Highly Satisfactory*)**

55. The Environment Agency (AMA) is located within the Ministry of Science, Technology and the Environment (CITMA), which is responsible for the development of environmental policies for Cuba. CITMA has an organizational structure with representatives in each province, which facilitated project execution. AMA was thus well positioned to act as Executing Agency for this project and carried out its responsibilities in a highly satisfactory manner. AMA had previous experience as EA for other UNDP/GEF projects, including the prior project in Sabana Camagüey, meaning that it has been managing interventions in this ecosystem for the past 12 years, which gave it a thorough understanding of the main stakeholders and previous actions carried out to address prevailing threats. In addition, since the National Protected Areas Centre (CNAP) used to pertain to the AMA, the agency was responsible for the execution of the Strengthening the National Protected Areas System project. Currently, AMA is responsible for several other UNDP/GEF projects, including Operational Program 15 (Sustainable Land Management, with five projects); "A Landscape Approach to the Conservation of Threatened Mountain Ecosystems"; and "Reduction of vulnerability to coastal flooding through ecosystem-based adaptation in the south of Artemisa and Mayabeque provinces" (GEF Adaptation Fund). AMA is also executing an UNDP project on environmental foundations for local food security (known as the BASAL project) and directs the Technical Ozone Office.

56. The Project Management Unit (PMU) consisted of two national-level project coordinators (the Project Director and Project General Administrator); five provincial coordinators; and coordinators of the technical groups for each of the four project Outcomes (note that the first Outcome was coordinated by the Project Director). Various advisors supported the PMU, including two scientific advisors with expertise on terrestrial and marine biodiversity from the Institute of Systematic Ecology and from the Institute of Oceanology, respectively, an advisor on Sustainable Financing, an advisor on environmental law and an advisor on Protected Areas. Terms of References were prepared for all the members of the PMU so that the division of responsibilities was clear. Please see Annex 6 for a summary of the structure of the PMU.

57. The PMU effectively managed the project to achieve the project's objectives, maintaining the overall vision of what the project hoped to achieve. It consisted of well-respected professionals who were considered to have taken on their functions diligently based on the results reviewed by the evaluation team and on the interviews carried out during the evaluation mission. They prioritized tasks effectively and, as detailed in the Adaptive Management section, adjusted to changing circumstances as necessary. The PMU was also able to convene key stakeholders on many occasions during project implementation. There were few staff changes within the PMU, which facilitated continuity.

58. Stakeholders interviewed during the evaluation indicated that there was a high level of communication and coordination between the national project coordinators and the provincial coordinators and other key actors. The flow of information and support provided was ongoing via phone, email and visits. The national project coordinators were considered to have regularly consulted with, and

responded rapidly to requests from the provincial and local levels, which was well received. Moreover, technical inputs and ideas raised at the provincial level were taken into consideration by the project. The national project coordinators also regularly requested inputs and information from the provincial coordinators. The latter provided progress reports to the national coordination every three months to keep them updated. The national coordinators visited project sites and participated in project events regularly. The project also organized a large number of workshops and opportunities for exchanges among relevant stakeholders.

59. As detailed in the M&E section, reports were complete and handed in on time. Planning was carried out diligently and with sufficient detail. AOPs were discussed each year in a participatory manner with stakeholders before being finalized for approval by the government. As each Outcome involved different stakeholders, the sectorial coordinators of each Outcome discussed the AOPs and the annual procurement plans with relevant stakeholders and they were then shared with the national project coordination. The approval of these AOPs involved several different agencies, including MINCEX and UNDP. In 2012, the government approval of the AOP was delayed due to institutional changes with regard to these processes. The materials and equipment funded through the project and distributed to the local levels were carefully controlled by the PMU.

60. Risk management is considered to have been carried out effectively. Some risks included in the ProDoc ended up materializing, resulting in the adoption of mitigation measures by the project. Other new risks emerged and were also taken into consideration (please see Adaptive Management section for more details).

61. The Steering Committee for this project consisted of the President of the Environment Agency (AMA), the Director General of the Training System of the Tourism Sector (FORMATUR ) belonging to the Ministry of Tourism, Director of the Fisheries Research Centre of MINAL, Director of Livestock of AZCUBA, and Director of the State Forestry Service of MINAG. It met on three occasions- for the inception workshop, after the Mid-term Review and it will meet again at project closure. In addition to these meetings, the Project Director met with individual members when critical issues arose. The Project Director felt that such a high-level committee should not meet more frequently as there were other instances available to support project decision-making. These include the annual meetings that were carried with the entire Project Management Unit, including national coordinators, provincial coordinators, and sectorial Outcome coordinators. These meetings were held in March of each year to discuss the progress of the previous year and plans for the coming year. As of 2010, the meetings were held in conjunction with those of the coordinators of the Capacity Building Centres to increase efficiencies.

- **Finance**

62. Financial management was carried out effectively for the project and expenses were adequately reconciled against the Combined Delivery Rates prepared by UNDP Cuba. Annual budgetary execution rates fluctuated from year to year from a low of 42% in the first full year (2009) to a high of 112% in 2013. As is the case for other UNDP/GEF projects in Cuba, procurement was an issue that affected spending rates, owing to the limited availability of suppliers to Cuba, the shipping distances, and time lags related to government checks and balances of imported goods. This led to delays in different activities such as fisheries research and monitoring of ecological indicators and affected budgetary execution. The delivery rate in 2012 was also affected by delays in the approval of the AOP by the government due to institutional changes. By the time of the Terminal Evaluation, the cumulative budgetary execution was high at 98%, with all remaining funds accounted for. Table 3 provides a summary of expenditures per Outcome and per year, along with the amounts included in the ProDoc and in the AOPs and delivery rates. Financial closure is planned for September 30, 2015.

63. The financial audits on the project that were managed by UNDP Cuba were carried out in 2009, 2010, 2011 and 2013, with no major findings noted. The only main issue mentioned were some delays in budgetary execution, which was related to the previously mentioned procurement difficulties in Cuba (lack of sufficient providers, etc.). Besides these audits, a number of national audit and control processes were carried out, sometimes as many as three times a year (for example in 2014), without any significant findings.

**Table 3: Summary of Expenditures by Outcome and Year (in USD)**

Year	2008	2009	2010	2011	2012	2013	2014	2015 I Trim.	Total budget
<b>Outcome 1</b>									
Total Project Budget as in PRODOC	158,128.00	147,835.00	123,542.00	168,355.00	117,355.00	113,281.00			828,496.00
Amount in AOP		267,864.00	254,508.71	375,948.00	241,863.10	232,006.00	43,250.00	6,000.00	
Amount disbursed	138,441.44	40,549.99	208,477.76	165,753.39	115,580.30	176,626.02	39,492.03	848.48	885,769.41
Delivery rate		15%	82%	44%	48%	76%	91%		107%
<b>Outcome 2</b>									
Total Project Budget as in PRODOC	384,634.00	288,983.00	165,768.00	188,507.00	158,132.00	115,092.00			1,301,116.00
Amount in AOP		250,129.00	231,280.32	310,735.00	270,976.00	265,364.03	126,575.00	31,276.42	
Amount disbursed	99,370.20	12,825.08	103,538.75	146,992.54	56,962.94	349,389.97	126,569.42	18,409.44	914,058.34
Delivery rate		5%	45%	47%	21%	132%	100%		70%
<b>Outcome 3</b>									
Total Project Budget as in PRODOC	357,495.00	238,376.00	141,178.00	217,635.00	141,178.00	38,109.00			1,133,971.00
Amount in AOP		354,055.00	434,212.81	113,515.00	118,814.42	200,228.96	56,000.00	17,000.00	
Amount disbursed	73,940.57	178,158.08	351,133.54	151,129.82	-58,681.56	235,233.51	18,388.06	1,818.18	951,120.20
Delivery rate		50%	81%	133%	-49%	117%	33%		84%
<b>Outcome 4</b>									
Total Project Budget as in PRODOC	358,101.00	177,482.00	105,586.00	60,904.00	22,859.00	29,810.00			754,742.00
Amount in AOP		338,673.00	204,651.00	196,825.00	199,220.57	127,184.05	21,000.00	2,000.00	
Amount disbursed	109,151.78	277,433.13	38,318.93	194,740.67	294,883.03	176,856.10	16,333.16	0.00	1,107,716.80

Delivery rate		82%	19%	99%	148%	139%	78%		147%
<b>Project Management</b>									
Total Project Budget as in PRODOC	20,033.00	20,029.00	15,279.00	15,278.00	15,278.00	15,276.00			101,173.00
Amount in AOP		14,587.00	24,059.00	66,550.00	34,014.40	28,080.00	30,000.00	40,000.00	
Amount disbursed	30,362.20	8,818.94	23,745.29	47,717.90	26,866.28	16,115.12	31,562.08	6,876.22	192,064.03
Delivery rate		60	99	72	79	57	105		190
Total budget in ProDoc	1,278,391.00	872,705.00	551,353.00	650,679.00	454,802.00	311,568.00	0.00		4,119,498.00
Total amount in POA		1,225,308.00	1,148,711.84	1,063,573.00	864,888.49	852,863.04	276,825.00	96,276.42	
Total disbursed	<b>451,266.19</b>	<b>517,785.22</b>	<b>725,214.27</b>	<b>706,334.32</b>	<b>435,610.99</b>	<b>954,220.72</b>	<b>232,344.75</b>	<b>27,952.32</b>	<b>4,050,728.78</b>
Total delivery rate		<b>42%</b>	<b>63%</b>	<b>66%</b>	<b>50%</b>	<b>112%</b>	<b>84%</b>	<b>29%</b>	<b>98%</b>

- **Co-financing**

64. A total of \$27,353,178 in co-financing was committed in the ProDoc from the government of Cuba, WWF Canada, UNDP, Ecodesarrollo and Capacity 2015. The final co-financing received exceeded the target at 59,801,887 (please see Table 4), due to increases in the support provided by the government of Cuba (54,229,980 instead of 22,032,000).

65. Total co-financing was calculated annually based on the data provided by the sectors, the provincial coordinators, and the institutes of the Environment Agency (AMA). Co-financing came mainly in the form of the payment of the salaries of the Project Management Unit at the national and provincial levels, provision of premises for the establishment of Capacity Building Centres, electricity costs, fuel costs for tractors used in sustainable agriculture activities, and posts for live fences, among others. Additional co-financing above and beyond commitments in the ProDoc came primarily from the Ministries of Science, Technology and Environment; Fisheries; AZCUBA; Agriculture; and Forestry and Tourism, and from local governments, which provided funding for activities such as the development of proposals for biological corridors, preparation of nurseries, and the establishment of two additional sponge farms. The substantial amount of co-financing provided for this project supported achievement of the project's objectives and is a demonstration of the high levels of commitment and ownership from the government of Cuba.

66. Additional funds were also leveraged during project implementation, such as for participation of personnel in different events. In accordance with the recommendations of the MTE, the project began to track these amounts but found that the data they were receiving from institutions was not reliable due to a reluctance on their part to provide this information.

**Table 4: Summary of Co-financing**

Co-financing (type and source)	UNDP financing (USD)			Government (National Currency)			Other sources (USD)			Total (US\$)		
	Amount in ProDoc	Amounts commit ted after ProDoc approv al	Funds spent	Amount in ProDoc	Amount s committ ed after ProDoc approval	Funds spent	Amount in ProDoc	Amounts committed after ProDoc approval	Funds spent	Amount in ProDoc	Amounts committed after ProDoc approval	Funds spent
<b>Grants</b>	4,119,498		4,050,729	22,032,000		54,229,980	984,178		984,178	27,135,676		59,264,887
<b>Credit</b>												
<b>Equity</b>												
<b>In-kind</b>							537,000		537,000	537,000		537,000
<b>Non-grant instruments*</b>												
<b>Other types</b>												
<b>Total</b>	<b>4,119,498</b>		<b>4,050,729</b>	<b>22,032,000</b>		<b>54,229,980</b>	<b>1,521,178</b>		<b>1,521,178</b>	<b>27,672,676</b>		<b>59,801,887</b>

- **Adaptive Management**

67. The EA successfully adopted an adaptive management approach on several occasions due to various changes in the context of the project since its development. This includes some adjustments to the pilot projects, which had been developed in 2004/2005 but only began to be implemented in 2008. With Outcome 3, two of the three proposed fisheries related pilot projects were substituted by two others (see Outcome 3 summary). For Outcome 4, for one of the pilots (UBPC Guamuta), it was decided to dedicate more funds to reforestation and to reduce the focus on crops since the latter would not have a significant impact on biodiversity conservation, especially given that the area was located within a migratory bird route. There were also some adjustments in the implementation time of the pilot projects as a result of four hurricanes that struck Cuba in 2008. This resulted in the prioritization of actions under Outcomes 1 and 4 and the decision to postpone implementation of some actions under Outcomes 2 and 3.

68. Changes to socio-economic policies in Cuba led to some project adjustments. One key government change was the decision to allocate idle lands to private individuals in usufruct for agricultural production. The EA and project Steering Committee felt that this represented a new project risk that could increase pressure on natural resources and biodiversity in productive landscapes. As a result, the project decided to begin exploring the concept of biological corridors for each province of the SCE to create greater interconnections among protected areas, biodiversity patches, forests and productive land in which sustainable practices are being carried out. This element was not originally conceived in the project design. By project end, a proposal for a biological corridor was developed. Other policy changes included the introduction of a new law permitting foreign investment, commitments to greater decentralization to the municipal level, and provisions for workers to become self-employed.

69. There were also several institutional changes since the project was designed. The Ministry of Sugar Industry became a state-owned sugar cane business group (AZCUBA company) and a significant proportion of the lands they managed were destined for agricultural production and were then transferred to the Ministry of Agriculture (MINAG). As a result, in 2009, three of the four planned pilot projects were located on MINAG lands. To maintain continuity, the EA decided to maintain the designated coordinator from AZCUBA to oversee the sustainable agriculture and buffalo activities for Outcome 4, especially because he had strong ties with MINAGRI, while MINAGRI continued to oversee the aspects related to nurseries and reforestation. Another change was that the Ministry of Fisheries became a structure within the Ministry of Food Industry (MINAL). Also, the institution that had taken the lead on the issue of Integrated Coastal Management (ICM), the Centre for Environmental Information, Management and Education (CIGEA) was dissolved in 2013. The EA maintained close dialogue with all relevant institutions to ensure that these institutional changes would not affect project execution.

70. The project coordination team also had to deal with delays in government approvals of AOPs and substantial periods of time when no imports were permitted, notably in 2012. At these times, the PMU focused on activities that did not require the purchase of goods and services and benefitted from substantial national co-financing in order to keep the project moving.

71. The Institute of Tropical Geography employed adaptive management to design the information system for the Sabana Camaguëy project. In the context of limited internet connectivity and the prohibitive costs of improving the system nationally, the Institute developed an alternative information system, which permitted both intranet access nationally (through INFOGEO) and internet access internationally (through the GEOTECH network).

72. The project also demonstrated adaptive management by incorporating new topics that were not emphasized in the ProDoc, such as climate change. Adaptation measures to reduce the impacts of climate change were introduced through the project, such as the construction of pathways to protect sand dunes.

- **Stakeholders/ Partnership Arrangements**

73. The project team worked with various partners to increase project reach and to obtain support for achievement of the project objectives. For example, the project formed partnerships with:

- Associations of agricultural producers, namely, the Cuban Association of Animal Production, which includes the Association of Buffalo Producers, and the Cuban Association of Agroforestry Technicians (ACTAF) to provide training and support for the implementation of sustainable agricultural practices.
- Research centres, universities and scientists. For example, the project worked with the Universities of Matanzas and Cienfuegos, which led to the strengthening of the Master's of Integrated Environmental Management and Doctoral programmes by incorporating the issue of ICM.
- Mundo Latino, Cuba's television producer, for the production of documentaries and audiovisual material to communicate project messages to a wider audience.
- Centro de Investigaciones de Bioalimentos (CIBA), which guided implementation of one of the pilot projects related to buffalo production in the municipality of Bolivia.
- National Union of Construction Architects and Engineers of Cuba (UNAICC) to complement the expertise of these professionals with information on biodiversity conservation for the design and construction of infrastructure in fragile ecosystems.

## **5.4 Project Results/ Effectiveness**

**Overall results (attainment of objectives) (*Satisfactory*)**

**Effectiveness (*Satisfactory*)**

*Outcome 1:* A strengthened enabling environment will exist for the financial, institutional, environmental and social sustainability of biodiversity conservation in the tourism, fisheries and agriculture-livestock sectors in the SCE. This Outcome included the following Outputs:

Output 1.1: Integrated Coastal Management Authority (ICMA) to coordinate the planning and activities of diverse government and social stakeholders within the Sabana Camagüey Ecosystem

Output 1.2: Environmental education and capacity building for local inhabitants and participants in the three productive sectors to enable participation in activities for integrated coastal management and mainstreaming of biodiversity conservation into productive sectors in the Sabana Camagüey ecosystem.

Output 1.3: Lessons learned on integrated coastal management, and the mainstreaming of biodiversity conservation in the tourism, fisheries and agriculture/livestock sectors, available for dissemination within Cuba and internationally

Output 1.4: Institutional, policy and legal frameworks in place to support mechanisms for the long-term financing of conservation and sustainable use of biodiversity within the targeted productive sectors of the SCE

74. The project played an essential role in the institutionalization of the concept of ICM in Cuba (in methodological, institutional and regulatory terms). This represents a systemic change in terms of greater intersectoral planning, coordination and implementation of activities. The methodology for ICM was adapted to the Cuban context and the country has gained valuable experience in its implementation. A National Resolution was approved for the Certification of ZBRMICs. Seven zones under Integrated Coastal Management (ZBRMICs) were then declared in the Sabana Camagüey ecosystem and for each ZBRMIC, ICM Programs were developed and approved, which serve as tools for environmental management. Not only have Integrated Coastal Management Programs been established in the SCE but in other areas of Cuba as well as a result of the project (67% of the total area of ZBRMICs are in the SCE). As such, stakeholders have gained experience in the application of ICM practices and increased awareness of what it means in practice. In one of the municipalities of the SCE (Martí in the province of Matanzas) there is even a designated day each year to celebrate ICM, which has become an annual community celebration.

75. The project design originally proposed the created of an Integrated Coastal Management Authority at the Sabana Camagüey ecosystem level to be charged with inter-sectoral coordination and information sharing. In 2008, as a result of the project, SCE was the first territory that was implementing this form of governance at the ecosystem level. As of 2009, the process had spread to other ecosystems and regions. As new territories were incorporated, it was determined that the creation of a technical/administrative super-structure for the SCE was no longer the most appropriate strategy. Moreover, during the project's execution in 2010-2011, there was a significant move toward greater decentralization in the country. As a result, seven local Integrated Coastal Management Authorities were established, approved by CITMA, for the seven certified ZBRMICs. These seven areas cover 16 municipalities. These Authorities are composed of key institutional and sectoral stakeholders and are chaired by the municipal governments, which are responsible for implementing the ICM Programs and have the ability to convene stakeholders, request action, legalize actions, and so forth. The local Authorities meet regularly to approve actions and to assess progress in implementing the ICM programs. CITMA's municipal-level representatives are responsible for overseeing implementation of the Programs. Self-evaluations to evaluate the effectiveness of the ICMA's suggest that these Authorities have strengthened over time and that they are functioning effectively. It should be noted that besides the three sectors targeted by the project, the establishment of local ICM Authorities and ICM Programs also benefitted the oil industry, specifically, in the Varadero-Cárdenas area where there is ongoing oil exploitation and where environmental recommendations were provided and implemented.

76. The idea that the project has promoted is that these seven Authorities would be supported by an Advisory Board to be established at the national level, which would primarily support environmental conflict resolution and ensure that an ecosystem view is maintained above and beyond local interests, in addition to playing a coordinating role and supporting inter-sectoral dialogue. Through the project, a proposed Resolution was developed to modify the existing Resolution on ICM by mandating the creation of an Advisory Board for ICM for Cuba<sup>3</sup>. This Advisory Board would not constitute a new institution but

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<sup>3</sup> Given that there are already a large number of certified ZBRMICs in Cuba and that many of the ecosystems are of national (and even international) importance, the proposal is for a nation-wide Advisory Board, which would include SCE.

would involve different authorities from the national, provincial level and municipal levels<sup>4</sup> who would provide advice. This is considered a more sustainable arrangement than what was originally proposed. The Resolution is in the process of review for formal approval.

77. To support the ICM Authorities and other key stakeholders, a repository of information on the SCE was developed. Due to internet connectivity issues, the design and operation of this system was modified from its original conception. It is managed by the Institute of Tropical Geography with both intranet and internet access to project data sets and information (from all three phases). In addition, a project website was developed with project information and outputs. The information repository that was developed for the project has expanded beyond its original remit to include information on other projects across the country as well. Besides the repository, project outputs are available and are referred to regularly at the Capacity Building Centres (CBCs) in the municipalities and are available at institutes such as the Institute of Oceanography and the Institute of Systematic Ecology.

78. A second key output envisioned by the project under this Outcome was environmental education and capacity building of local inhabitants and people involved in the three productive sectors to facilitate ICM and biodiversity mainstreaming in the sectors. To this end, the project led to the creation/consolidation of 20 Capacity Building Centres for Integrated Coastal Management in municipalities of the Sabana Camagüey ecosystem and two additional CBCs outside of the ecosystem, which surpassed the original project expectations (20 CBCs instead of 12). At the national level, the Environmental Education section of the Environment Agency's Environmental Directorate provides guidance to the Centres. The Centres have become important focal points for environmental education, training, workshops/events, distribution of teaching material, dissemination of best practices, and research, enabling environmental issues to be integrated in the work of institutions, productive sectors and community members. According to the interviews carried out during the evaluation, the CBCs constitute one of the most important project impacts.

79. Extensive capacity building has taken place at the CBCs with local authorities, productive sector workers, community members and other stakeholders to support ICM implementation. The training activities identified in the annual workplans of each CBC are based on an assessment of each municipality's training needs. The CBCs are also used regularly by municipal governments and other stakeholders for discussions and meetings, and by the agriculture and fisheries sectors (the tourism sector uses its own school and facilities). During the project, annual meetings of all the CBCs of the SCE took place to facilitate the exchange of information and experiences among them. The project funded equipment and infrastructure for the Centres (such as computers and TVs), while the government provided the venues and continues to assume the operational costs (electricity, maintenance, etc.). The provincial CITMA delegations assumed and continue to assume the staffing costs. Based on interviews, the cost for their continued operation will be assumed by CITMA, in the absence of any cost-sharing mechanisms with the sectors at the moment.

80. The project has dedicated substantial efforts to disseminating lessons learned and information from the project. This was achieved primarily through workshops, exchanges, and production of printed and audiovisual material, including panels that were presented at different events such as World Biodiversity Day. Various publications resulted from the project on topics such as the Sustainable

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<sup>4</sup> The ICM Advisory Board would include, but not be limited to: the Ministry of the Revolutionary Armed Forces, Civil Defense, Ministry of the Interior, Ministry of Food Industry, Ministry of Agriculture, Institute of Physical Planning, National Water Resources Institute, Ministry of Tourism, Ministry of Public Health, and others.

Financing Program, economic valuations of the pilot projects, experiences in ICM, and a Manual of Best Practices for hotels. A book was also published with inputs from 24 authors on the fauna of the SCE. A final publication summarizing project experiences and learning about the economic value of biodiversity in productive terrestrial and marine landscapes; describing the status of ecosystems; and addressing key issues such as sustainable production alternatives, invasive alien species, climate change and biological corridors, is in the process of being prepared. Documentaries and clips have also been produced, largely through a partnership with Cuba's television producer, Mundo Latino, including a nature series with six documentaries and a documentary on sustainable buffalo management. While there were no staff members within the PMU specifically dedicated to communications, project advisors and partners supported the production of project publications. In 2014, a communication strategy was developed and implemented to mark the 20-year milestone of project work in the SCE, which resulted in a day with panel discussions, substantial newspaper articles and radio programs, interviews with key actors on national television, and other communication outputs. Besides the publications and media coverage at the national level, participating provinces also carried out their own information campaigns, with TV, radio and press coverage. Some provinces also prepared CDs with project information.

81. The final Output under this Outcome was perhaps the most challenging for the project, and involved the putting in place of institutional, policy and legal frameworks to support mechanisms for the long-term financing of conservation and sustainable use of biodiversity within the targeted productive sectors of the SCE. In this respect, stakeholders concurred that the progress made was very significant and groundbreaking in the Cuban context. A Sustainable Financing team of experts was assembled. This led to a publication on Sustainable Financing, which looked at international models for the financing of BD mainstreaming in the productive sectors. The national case studies were included in a publication on economic valuations, which assessed the costs and benefits of the different pilot production practices promoted by the project. This was complemented by training of institutional stakeholders (economists from key institutions and demonstration areas) on the concept of sustainable financing mechanisms. A proposal was developed for the tourism sector based on willingness to pay and other research, which would involve charging tour operators a fee that would revert back to addressing these issues. According to the ProDoc, the project was going to propose rules for how such funds would then be divided among key actors. However, by project end, this proposal had not yet been assessed by the Ministry of Tourism, and cooperation agreements with key sectors and with government have not been reached on this issue. In addition, the implementation of the ICM programs involves an assessment of the financial resources required by the different sectors to implement the environmental measures; the idea is that eventually these costs would all be included in their annual planning and that the process of economic decentralization and local government empowerment would facilitate this process. As such, mechanisms to ensure the long-term financing of BD integration in tourism, fisheries and agriculture require further work.

*Outcome 2:* The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE. This Outcome includes the following Outputs:

Output 2.1: Awareness and capacity building for adoption of environmentally sustainable practices by tourism sector stakeholders

Output 2.2: Development of nature related tourism at two pilot demonstration sites within the Sabana Camagüey ecosystem

Output 2.3: Capacity building to enable replication of demonstration strategies for nature related tourism throughout the Sabana Camagüey ecosystem

Output 2.4: Sustainable financing mechanisms to support long-term mainstreaming of biodiversity conservation into tourism sector policies and activities

Output 2.5: Tourism sector regulations and planning strategies and processes that integrate biodiversity friendly practices

82. Extensive capacity building was carried out with the tourism sector. Workshops were held to train tourism managers, tour operators, and tourism workers, as well as personnel of the National Protected Areas System, reaching a total of 14,000 people over the course of the project. Training events included an itinerant workshop for nature tourism guides to enable the guides to observe different nature tourism products firsthand. The project played an important role in providing advice and guidance to tourism companies on practices to employ for environmental management. Various actions were taken to build awareness levels among tourists, such as the production and distribution of pamphlets on the biodiversity values of the SCE and on the need to conserve water and energy. A "spot" was also produced that was broadcast on local TV channels.

83. Another significant project accomplishment worth highlighting was the establishment of a fully equipped Centre for Sustainable Tourism Development within the National System of Tourism Schools (FORMATUR), in the main school for tourism training in the country, located in the Ciego de Avila province. This was an additional impact that had not been specifically included in the ProDoc that increases the sustainability of project impact. This Centre provides a space and the equipment for training to take place. The curriculum of the School was strengthened with regard to environmental best practices in tourism in all subjects, teachers received training on sustainable tourism, and a CD on the topic was produced for teachers. The other four schools associated with the Centre for Sustainable Tourism Development were also equipped through project funding. The fact that this Outcome was coordinated by FORMATUR (the National Training System for Tourism), which is responsible for training tourism managers and workers in the country played an important role in these achievements.

84. Project funding supported the maintenance of the Coral Reef Early Warning Voluntary Monitoring Network, based in the Institute of Oceanography (IDO). IDO provided important complementary national funding to operate the network of data gathering, as well as the personnel to process, elaborate and disseminate the bulletin distributed continuously from 2003 (second phase of GEF support) to date (2015). This provides information for dive centre operators on coral bleaching so that measures can be taken to reduce tourism pressures in these areas. The project supported training as well as the production of a manual on how to carry out the monitoring. In addition, the project supported monitoring of water quality in beach and coral reef diving sites and CDs with information on diving sites.

85. Four pilot projects for nature tourism were designed and established, as well as a Visitor Centre. The sites were somewhat modified compared to proposals in the ProDoc<sup>5</sup> on the advice of an international consultant and due to the lack of a boat with sufficient capacity for the originally designed pilot and the fact that it was deemed overly ambitious. The nature projects have led to an increase in the number of visitors participating in nature-based activities compared to the baseline. By project end, the following nature tourism products had been developed/ promoted:

Nature Tourism product	Location	Description of product and project support
Jeep safari adventure	APRM Jobo Rosado, Yaguajay, Sancti Spíritus	Safari tour to various cays and to the Jobo Rosado protected area. Project supported production of documentary on the product, promotional material, and a study on economic feasibility of this tourism product (case study was included in the Sustainable Financing publication under

<sup>5</sup> The ProDoc had originally proposed six nature packages at the Buena Vista Biosphere Reserve and replication in the Gran Humedal del Norte.

		Outcome 1)
Kayak adventure	Caguanes National Park, Yaguajay, Sancti Spíritus	Kayaking tour through protected area. Project funded purchase of kayaks and production of documentary
Tour of mangroves	La Redonda Lagoon, Morón, Ciego de Ávila	Guided boat tour through mangrove forest and visit to Visitor Centre Project funded establishment of Visitor Centre, promotional material
Flamingo observation (additional replication site for nature tourism)	Río Máximo Wildlife Refuge, Province of Camagüey	Bird watching at significant flamingo nesting site Project funded delimitation of protected area, binoculars, telescope, computer, projector, tractor parts.
Visitor Centre in Santa María key	Near Buena Vista Biosphere Reserve	Visitor centre to describe values of the SCE Project support for establishment of Visitor Centre (not yet complete)

86. Many of the nature tourism products developed are the only ones of their kind in Cuba and have enabled stakeholders to gain highly relevant experience in diversifying their tourism product by offering other options besides the traditional "sun and sand " model. The preexisting tourism products that were strengthened with the project have been approved by the National Nature Tourism Commission, while the new products should also be approved by this Commission. The numbers of tourists visiting in nature tourism products increased by project end, particularly national tourists. Benefits to local community members were analyzed for the La Redonda pilot project, and there is potential for benefits to livelihoods with some of the other pilots as well. In a few cases, there are issues that need to be addressed to maximize the potential of these nature tourism products to attract tourists to nature tourism activities. For example, the two Visitor Centres have an attractive wall exhibit with information on the biodiversity values of the areas, but this is currently only provided in Spanish. In the Río Máximo flamingo observation nature product, the co-financing from the National Enterprise for the Protection of Flora and Fauna (ENPFF) is pending to complete the construction of a rancho for tourists. During the evaluation, ENPFF indicated in an interview that it was committed to providing this co-financing. Pressures from illegal fishing that have contributed to a significant reduction in flamingo nests also need to be addressed at this pilot project.

87. To promote replication, some marketing was carried out, including at national fairs such as the National Nature Tourism Fair (TURNAT), and to a limited extent international fairs (given that the latter were found to be very expensive). Ongoing marketing will be important to continue to increase nature tourism in Cuba to these and other sites and to promote further replication.

88. One proposed Output that has proven to be more difficult is the development of financial mechanisms to generate income for the mainstreaming of biodiversity conservation into the tourism sector. The project carried out studies, such as on the revenues and costs of nature tourism activities at the Jobo Rosado protected area, a study on Willingness to Pay among tour operators, and on the feasibility of nature tourism products. After consultations, the project developed a proposal for revenue generation that was presented to the Ministry of Tourism, which would involve charging tour operators a fee for visitation to fragile ecosystems (a type of payment for environmental services), with the idea being that this would then be available for biodiversity conservation. However, the proposal has not been approved at this point and this key element of financial sustainability has not therefore not been assured. As noted in the Recommendations section, it is vital that substantial follow-up be undertaken on this.

89. The project had a significant impact on the development of tourism sector guidelines and planning strategies to promote biodiversity friendly practices. This aspect fully complements the extensive capacity building and awareness raising activities that were carried out. The previously developed Sustainable Tourism Indicators for ecologically sensitive areas were revised to incorporate BD considerations<sup>6</sup>. Prior to the project, such indicators only existed for protected areas, but this project proposed indicators for areas outside of PAs. These are pending approval but are nevertheless already being applied in 21 hotels in the SCE. The Tourism Master Plan for the SCE was also updated each year by the Institute of Physical Planning, with the project providing recommendations and comments through CITMA.

90. Land use planning has been carried out in all of Cuba, but was done without taking into consideration environmental issues. In order to strengthen the incorporation of environmental criteria and consideration in planning for the tourism sector, one of the key project achievements was to introduce environmental planning in nine municipalities of four provinces (the only province that has not completed the planning in any of its municipalities is Villa Clara). This exceeds the expectation of having a total of five municipalities of the SCE with completed environmental plans. Based on the interviews undertaken, there is significant commitment to continue expanding the number of municipalities that have carried out this exercise. The methodology was developed by the Institute of Tropical Geography and agreed upon with the main stakeholders, was validated in one municipality of the project (Yaguajay) and then replicated in eight other municipalities. The Institute of Physical Planning (IPF) plans to replicate the methodology to the other municipalities across the country. It includes the collection of biophysical and socio-economic information and production of different maps at the municipal level, followed by an assessment of land use potential based on these environmental characteristics and the degree of compatibility of the natural landscapes with different anthropogenic activities. Climate change forecasts were also taken into consideration. The PMU felt that this was a necessary step toward the future realization of strategic environmental impact assessments, which could not be achieved during the time period of the project as had originally been envisioned. The environmental planning methodology has begun to be applied to other areas of the country and is also being used by other projects, such as the BASAL project.

91. A Manual on Environmental Best Practices with guidelines for staff in the hotel industry was developed and has been distributed to tourism industry stakeholders. According to the stakeholders interviewed, the guidelines are beginning to be implemented, which actually helps hotels increase their star ratings. However, new constructions are being planned in the cays of the Camagüey province and there is some concern because developers have indicated that they do not have the appropriate equipment to reduce impacts on biodiversity. This issue requires ongoing follow-up post-project. A Manual on Best Practices in Ecological Gardening was also produced. The use of native species in hotel landscaping was promoted through training and through the establishment of micro-nurseries at hotels and the production of a list of appropriate species to use. In addition, the project identified the invasive alien species present in the ecosystem.

92. It is also important to mention that the project succeeded in developing a draft norm/ decree with specific guidelines on the construction of roadways in fragile ecosystems (small cays). The norm is being discussed among stakeholders and its formal approval is pending. The development of this national standard forms part of the government plan with CITMA having responsibility for this, and it is therefore expected to conclude after the project. Once approved, either in its current state or with some revisions (and stakeholders indicate that they feel that it will be approved), compliance with the norm will be

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<sup>6</sup> They take into consideration issues such as management of coasts, energy and water, as well as solid, liquid and hazardous wastes.

mandatory across the country. This will not only benefit the tourism industry but also the transportation industry.

*Outcome 3:* Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored. This Outcome included the following Outputs:

Output 1: Biophysical and socio-economic information necessary to make well informed decisions on necessary regulations, fisheries practices and sustainable fisheries development activities.

Output 3.2: Appropriate fisheries regulations and practices of benefit to the stabilization and/or partial recovery of fish populations and of species and habitats of global importance.

Output 3.3: Pilot projects to demonstrate sustainable livelihood alternatives for fishermen affected by new restrictions on fishing effort and practices Output 3.4: Fishermen and decision-makers within the SCE supporting fishing levels and practices that conserve biodiversity

93. Significant baseline biophysical information was collected to better understand the state of the fisheries and enable well-informed decisions to be made in terms of necessary regulations and fisheries practices. For example, data on commercial fish populations by species, annual variations due to stress factors, and historic fish catches were gathered, as well as data on private sports fisheries. Much-needed research was carried out to determine breeding and spawning areas; establish a baseline on habitat recovery since imposition of partial bans on bottom trawling; identify sources of contamination and undertake water quality and sediment sampling. The speed of the currents was measured in all the bridges of the causeways and a report presented to the highest level of the Environmental Authority, warning of the potential consequences if appropriate measures are not taken. Monitoring was also carried out to ensure compliance with fishing regulations, including during closed fishing seasons. In some cases, joint expeditions among different research centres were carried out for this research (such as with IDO, CIP, and universities). Despite some instances when monitoring could not be carried out due to the lack of an appropriate vessel, a substantive amount of valuable data was gathered through this Outcome. In addition to the biophysical information, surveys were carried out to determine socio-economic impacts of the changes in regulations and fishing practices.

94. The project provided support, information and knowledge for the development of key policies to ensure the sustainability of fisheries, such as the prohibition of bottom trawling in 2012 and set nets in 2008 and the review of the proposal on minimum legal sizes of fish. In this respect, the research undertaken through the project and equipment purchased to carry out this research were instrumental in providing the data needed to support the policy changes. Workshops were held to educate fishing inspectors of the National Office of Fisheries Inspections, the Coastguard, the Fish Landing Bureau (*Buro de Capturas*) and other personnel on these changes, on species identification, and other topics. The project also supported research on fish aggregations, which could provide valuable data for future measures, such as species quotas. In addition, the Centre for Fisheries Research developed a Manual on Fishing Gear in 2013, which is expected to be printed shortly and then disseminated widely, but which does not integrate all the recommendations made by the project team on biodiversity considerations (although BD is mentioned in the introduction).

95. One of the key Outputs under this Outcome was the implementation of pilot projects to provide alternatives to fishermen affected by new regulations on fishing gear and restrictions on fishing effort. Three pilot projects were established to promote sustainable fishing alternatives. Two of the originally conceived pilot projects were not implemented, namely, the use of flotation devices to attract fish and blue crab harvesting. For the former, this was due to the difficulty in maintaining such devices in the high seas, and for the latter, this was because of declines in blue crab populations. The final pilot projects that were promoted were:

- Offshore/ deep water fishing;

- Sponge cultivation; and
- Mangrove oyster cultivation.

96. These pilot projects have generally been successful, leading to tangible benefits for fishermen and fishing cooperatives. The establishment of the pilot projects was supported by training and development of technical manuals. Economic feasibility case studies were carried out on these alternatives, as highlighted in other sections of this report. In total, approximately 63 workers are now gaining their livelihoods from these alternatives. To promote replication of the pilot project experiences, there were many exchanges and information dissemination with other fishing cooperatives. As a result, some replication is occurring, including in one instance, with the support of the GEF Small Grants Program, such that the number of total beneficiaries is likely to rise. There are not yet any formal established mechanisms to ensure the availability of government funding to further replicate these pilot projects among state-owned fisheries cooperatives. Nevertheless, the government considers investments in mangrove oyster cultivation and high seas fishing as priorities.

97. For the deep sea fishing pilot project, equipment was purchased to outfit two vessels with appropriate fishing gear. Catches of high-value fish species such as *pargo de alto* (*Lutjanus vivanus*) have increased as a result. To ensure the sustainability of the deep sea fishery, the Centre for Fisheries Research is engaged in ongoing monitoring of population sizes and needs to continue to do so<sup>7</sup>.

98. With regard to sponge cultivation, the project purchased equipment such as a main boat, a dinghy and monofilament to establish a sponge farm with the Caibarién fishing cooperative. Further replication of sponge production has already occurred, with an additional sponge farm in Caibarién (set up using the cooperative's own funds), one in the municipality of Martí, and a fourth being planned in Punta Alegre in Ciego de Avila province with support from the SGP. The marketing of production from these farms is secured through a French company, which is interested in supporting replication to other areas of Cuba. The oyster cultivation project involved the cultivation of oysters using oyster shells and monofilament as the substrate instead of mangrove branches, thus providing clear environmental benefits. Yields have been favourable and replication is occurring as well. A manual on sustainable mangrove oyster cultivation was produced.

99. In order to ensure that fishermen and decision makers support the regulatory changes, training, technical assistance, and exchanges were facilitated by the project, for example, on the use of GPS and nautical maps, and on minimum fish sizes. Fishermen also participated in workshops on the fishing alternatives promoted by the project.

*Outcome 4:* The declining sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the SCE. This Outcome included the following Outputs:  
 Output 4.1: Land use planning/zoning for former sugar cane lands and facilities within the SCE, based on landscape level ecological and socio-economic assessments;  
 Output 4.2: Establish management and technical capacity for biodiversity friendly agricultural, livestock and forestry production on former sugar cane lands;  
 Output 4.3: Demonstrate pilot strategies for sustainable management of water buffalo on former sugar cane lands;  
 Output 4.4: Demonstrate pilot strategies for biodiversity friendly production on former sugar cane lands;  
 Output 4.5: Sustainable forest management of biodiversity-rich coastal forests within the SCE.

100. Planning/ zoning of land use was carried out for the four Basic Units of Cooperative Production

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<sup>7</sup> Specifically, it is carrying out Productivity Susceptibility Analysis.

(UBPCs) participating in the project, as it relates to forestry and agricultural activities, based on databases, GIS information, and ecological studies (of soil types etc.) The project thus supported the development of plans at the level of the UBPCs for the geographic distribution of farm activities. Information on the native species to incorporate in their lands was also generated. Water and sediment quality was monitored in some sites and the impacts of different management practices on key resources (water, soil, vegetation) and on biodiversity were studied.

101. The project carried out extensive capacity building on BD-friendly agricultural, livestock, and forestry production and provided environmental advice, including for producers within the UBPCs, technicians/ professionals, and managers. This included workshops to facilitate information exchanges. The sustainable practices carried out at the pilot sites resulted in some increases in economic incentives for workers due primarily to increased productivity and production. For example, higher earnings at UBPCs stemmed from increases in buffalo and beef meat and milk production. Incomes for workers from forestry activities also benefitted from existing incentives related to high plant survival rates.

102. The pilot projects for sustainable management of water buffalo had very positive impacts. Animals that had been on the loose were captured and workers were trained on sustainable management practices. Various management practices were put in place, such as setting up fences, reforestation, installation of windmills, use of milking machines, and use of manure to produce ecological fertilizer. Delays in one of the pilot project sites linked to frequent staffing changes led to the decision to partner with the Centro de Investigación de Bioalimentos (CIBA) rather than with the UBPC in that particular area (in the municipality of Bolivia). The experience gained and documented on buffalo management (especially in the UBPC Yarual and Nela) contributed to the fact that CIBA, working together with producers, instructor, researchers from specialized centres and decision-makers from key organizations took on the responsibility of drafting and circulating a proposed Cuban norm on the sustainable management of confined water buffalo in coastal zones. This proposal has already gone through several rounds of debate and is expected to be approved this year (2015), as it has been included within the National Standard Program for 2015- 2016. Approval would convert it into a mandatory national standard that would apply to all of the entities involved in buffalo livestock management that share these conditions in the country.

103. The pilot projects related to agriculture, livestock, and forestry activities on UBPCs (so-called integrated agricultural production models) involved activities such as the building of stables for small livestock, production of biogas, use of wind turbines, and establishment of silvopastoral systems. While this was described as a separate Output from buffalo management in the ProDoc, in actuality, UBPCs often combined buffalo raising with other agricultural, livestock and forestry activities. Project support included planning to designate zones for grazing, silvopastoral systems, forestry, and organic crops; promotion of good practices; provision of equipment and technology (computers, windmills, etc.); awareness raising, training and provision of teaching material. The pilot projects were favourably viewed by participants and communities, particularly because of the impacts they had felt from the closure of sugar plants.

104. Finally, the project led to the establishment of nurseries and the introduction of trays with in-built cells to increase production, reduce production costs, increase quality of plants, and improve working conditions. One issue to note with the cell technology is that it does not always provide enough space for larger native tree species seeds to grow. Also while the ProDoc specifically highlighted the use of native species, both native and fast growing exotic species were grown in the nurseries. Stakeholders indicated that this was due to the Cuban government's policy of establishing plantations with fast-growing species to meet the country's energy demands. However, as some of these species are actually invasive, there is a disconnect with the Invasive Alien Species strategy being developed through another UNDP/GEF project this issue needs to be given greater thought.

105. Both reforestation and natural forest management (management of natural regeneration) were carried out for the purposes of production on farm plantations and conservation of coastal forests. Research was carried out to identify the key coastal areas for reforestation and 114 species that are able to survive in the generally saline conditions were identified. Community members contributed their time to the actual planting. The project's main contribution was the introduction of native species for reforestation, and greater understanding on different native species that can be successfully grown (although exotic species were also used in the reforestation activities). Furthermore, the project led to a significant increase in forest coverage, enhancing connectivity and coastal protection. Targets established in forest management plans were met.

106. Economic valuation studies were carried out in the UBPC Nela of Yaguajay, in the UBPC Yarual of Bolivia and in the UBPC Guamuta de Matanzas. The practices promoted were found to be viable in the short or medium term depending on the practice. The pilot projects have increased the number of jobs in the area, provided more meat and milk for the community, and have resulted in environmental benefits, such as increased avian biodiversity. Stakeholders interviewed indicated that some cooperatives would have the resources for replication and others less so. AZCUBA itself has identified 123 cooperatives (AZCUBA, MINAGRI, individual) in which replication of stables for small livestock could occur. To support information exchange and replication, some material was produced, such as a documentary on buffalo production and flyers. Furthermore, with the approval of the national standard on sustainable buffalo management in coastal ecosystems, replication of these practices is expected to occur.

107. During project implementation, the national context changed as a result of the government decision to distribute land to individuals interested in agricultural production. As a result, the project decided to design a proposal of Biological Corridors in each province to ensure connectivity between PAs and different categories of land use. This exercise was carried out together with decision makers and forestry sector specialists.

**Table 5: Level of Achievement of Project Objective and Outcomes based on Project Indicators**

Description of Indicator	Baseline Level <sup>8</sup>	Target Level at end of project	Level at 30 June 2014 ( <i>Comments of PMU</i> ) <sup>9</sup>	Terminal Evaluation Comments
Objective: The fisheries, tourism and agriculture sectors in Sabana Camagüey adopt operational changes that enable biodiversity conservation.				
1. Key measurements of biological health of coral reefs, sea grass beds & mangroves within SCE stabilize or improve:				
1.1. Avg. coral cover of sea bottom	12%	0% decrease	<p>The PMU did not consider it necessary to carry out the final assessment as planned for the following reasons:</p> <p><i>"Significant changes in coral cover attributed to coral reef management actions are not expected. Significant change in coral cover could take place only due to eventual effects of natural events such as hurricanes or coral disease (including bleaching), but it is not the objective of this logframe assessment. The Coral Reef Volunteer Early Warning Monitoring Network (operated by the Project since 2003) reports biannually on the state of corals throughout the island coast. Their reports during this period revealed that there were no strong coral bleaching events in the SCE.</i></p> <p><i>It is therefore concluded that there should still be 0% decrease at the end of the project with regard to local human intervention (expected</i></p>	<p>Coral cover assessment in 2011 found an average coral cover of 15.9%, above the baseline. In 2013, six sampling stations that had not been previously measured in 2011 were assessed and the average coral cover in the SCE was 11.7%, which was not considered significantly different from the baseline. Due to the ongoing work of the Coral Reef Volunteer Early Warning Monitoring Network which leads to the production of biannual reports on the state of corals; the fact that no changes were expected; and the relatively high cost of the expeditions, no further monitoring was carried out in 2014/2015. No further changes were expected in part because the coral reef cover was already relatively low and the main coral species present are the ones that are more resistant to changes in the environment, and in part because there were no hurricanes in this period nor high intensity</p>

<sup>8</sup> The baseline data was determined in 2004/2005 during the project preparation phase.

<sup>9</sup> This column presents the information as presented by the PMU in the 2014 PIR. Some small edits to the English were made to the text by the evaluator.

			0% decrease)." "	<p>coral bleaching events.</p> <p>Based on the available data gathered by the project and by the Coral Reef Volunteer Monitoring Network, the target seems to have been achieved in terms of 0% decrease, however, comprehensive data from all sites was not gathered at project end. It is recommended that future ProDocs clarify from the outset the monitoring that will and will not be carried out by project end and how this monitoring will link with ongoing monitoring (in this case in terms of the Coral Reef Volunteer Early Warning Monitoring Network).</p>
1.2. Total area of mangroves	1,627 km <sup>2</sup>	0% decrease	<i>"The Governmental decision [in terms of the moratorium on mangrove deforestation] is maintained. Sporadic monitoring has been carried out at the Project area. Loss of mangrove surface areas (illegal cutting) has not been in evidence during this PIR period."</i>	<p>The government declared a moratorium on mangrove deforestation in 2010, in recognition of the important role of this ecosystem in coastal protection. As such, any cutting of mangroves is now illegal. In 2011, 150 stations and 20 sample plots were evaluated with satellite images and the total area of mangroves was found to be 1,6366 km<sup>2</sup><sup>10</sup>, exceeding the target slightly.</p> <p>By the Final Evaluation, the area of mangroves was 1,907.28 km<sup>2</sup> (in the cays and mainland), representing an increase of 280.28 km<sup>2</sup> in area. As such, the target was exceeded for this indicator.</p>
1.3. Density of sea grass beds (shoots/m <sup>2</sup> )	548.8	0% decrease	<i>"The time lapse between the monitoring (August 2012) and the PIR date (June 2014) is too short to detect any change in sea grass beds as a result of the bottom trawling ban. Seagrass bed recovery take many years (up to decades, depending on different factors, climatic among</i>	<p>The Project Management Unit indicated that this indicator was dependent on the assumption of a ban on bottom trawling at project outset (or before) but a full ban did not occur until 2012. Bottom trawling has had a very destructive impact on the density of</p>

<sup>10</sup> The PIR did not report the figure for total mangrove area at the time, but this information was provided upon the request of the evaluator during the FE.

			<p><i>them). Therefore as was proposed by MTE, and reported in the PIR for the 2011/2012 period, this indicator was removed from the logframe. It was not considered necessary to make a final assessment of the indicator (given that bottom trawling is forbidden, a 0% decrease is expected)</i></p> <p><i>The project is reporting as a lesson learned, that in the marine environment, performance indicators should not include those for which biodiversity responses take a long time to be detected."</i></p>	<p>seagrass beds in general and the recovery period for this ecosystem takes a significant amount of time, which is why the PMU decided not to carry out a final comprehensive assessment. The PMU had requested the elimination of this indicator from the logframe for these reasons, but it was decided not to submit this request officially to GEF Secretariat. It is expected that with the bottom trawling ban, the density of seagrass beds will increase over time.</p> <p>The density of seagrass beds was determined in specific areas under Outcome 3. North of Villa Clara province, sampling carried out in 2013 showed no significant difference in shoot density compared to the baseline. Data in Cayo Puto from 2013 indicated a 0% decrease compared to the baseline.</p>
2. Key measurements of biological health of selected indicator fish species within SCE stabilize or improve:				
2.1. Average size of parrotfish	15.02 cm.	0% decrease	<p><i>"It was not considered necessary to measure this indicator because of the short time elapsed since the 2012-2013 assessment. No significant change in sizes was expected attributable to coral reef fishery management. Thanks to the full ban of bottom trawling by 2012 through Fishery Resolution 503, much greater survival of juvenile parrot fishes inhabiting neighbouring sea grass beds is expected to occur. Increase in size, however, is linked to increase in sea grass cover, therefore increases in size are not expected for several years. Given the short time pending, there should be close to 0% size decrease at the end of the project with regard to fishing."</i></p>	<p>Data from 2011 specified that the average size was 12.2 cm, based on random sampling (a statistical analysis was not carried out). Data reported in the 2013 PIR for stations that remained unsampled in 2011 showed that at Cruz del Padre and La Vela cays, the average size of parrotfish was 13.0 cm (<math>\pm 7.1</math>); the difference from the baseline was not deemed significant. Given the key policy change to prohibit bottom trawling, it is expected that parrotfish sizes will increase over time. Nevertheless, it would have been useful to have gathered data on all the indicators at project end as had been established in the Strategic Results Framework.</p> <p>In the future, it is recommended that all</p>

				indicators be measured at project end, <i>even if</i> changes are not expected or the target is not expected to be met. if human or financial resources are limited, end-of-project monitoring is even more important than monitoring the indicators at midpoint, as it enables the final project impact to be determined.
2.2. Average size of snappers	19.02 cm	0% decrease	<i>It was not considered necessary to measure this indicator because of the short time elapsed since the 2012-2013 assessment. No significant change in sizes was expected attributable to coral reef fishery management. Thanks to the full ban of bottom trawling by 2012 through Fishery Resolution 503, much greater survival of juvenile snappers inhabiting neighbour sea grass beds is expected to occur. Given the short time pending, there should be almost 0% size decrease (due to bottom trawling ban) at the end of the project."</i>	Based on 2011 monitoring data, the average size of the snappers was 19.3 cm. Data reported in the 2013 PIR for stations that had not been sampled in 2011 showed that average snapper size was 18.8 (±7.8), which was not considered significantly different from the baseline. Given the key policy change with the prohibition of bottom trawling, it is expected that snapper sizes will increase over time.
2.3. Average size of groupers	19.61 cm	0% decrease	<i>"It was not considered necessary to measure this indicator because of the short time elapsed since the 2012-2013 assessment. No significant change in sizes was expected attributable to coral reef fishery management. Thanks to the full ban of bottom trawling by 2012 through Fishery Resolution 503, much greater survival of juvenile groupers inhabiting neighbour sea grass beds is expected to occur. Given the short time pending, there should be almost 0% size decrease (due to bottom trawling ban) at the end of the project."</i>	Based on 2011 monitoring data, the average size of the groupers was 26.4 cm, which was not considered significantly different from the baseline. Data reported in the 2013 PIR for stations that had not been sampled in 2011 showed that average grouper size was 22.5 (±7,7). Given the key policy change with the prohibition of bottom trawling, it is expected that grouper sizes will increase over time.
3. Area of seascape within SCE benefiting from biodiversity friendly management by productive sectors (sustainable fisheries)	0 km <sup>2</sup>	2,770 km <sup>2</sup> (Target identified in 2005)	3378 km <sup>2</sup>	3510.05 km <sup>2</sup> The figure by the time of the Final Evaluation was 3510 km <sup>2</sup> , which corresponds to the 3499 km <sup>2</sup> that received legal protection as fisheries reserves, the 11 km <sup>2</sup> of the high seas fisheries

				<p>pilot project and the 0.05 km<sup>2</sup> corresponding to the sponge and oyster cultivation pilot projects.</p> <p>The target for seascape area benefitting from more biodiversity friendly management practices was therefore exceeded.</p>
4. Area within SCE affected benefiting indirectly over the long term by changed productive sectors:				
4.1. Landscape	0 km <sup>2</sup>	22,800 km <sup>2</sup>	<p>15,721.94 km<sup>2</sup>. <i>"This figure is the sum of 5,124.2 km<sup>2</sup> (forest, livestock and agriculture areas, plus the area of certified municipalities under ICM=10 597.74 km<sup>2</sup>. The decrease in area with respect to the last year is due to the fact that some state lands have been delivered to private producers to be used for agriculture purposes. The project is advocating for the inclusion of these lands within the ICM and biological corridors areas, which is an issue still being discussed.</i></p> <p><i>A proportion of the 2,863.2 hectares are forest areas planted with native species that were promoted by the Project."</i></p>	<p>Significant progress was made by project end (15,722 km<sup>2</sup>) toward the target in terms of the area benefitting from changed productive sectors. The target was not fully reached due to the transfer of some lands that had been under ICM to private individuals for agricultural production, as per a change in state policy. While this factor was outside of the control of the project, the PMU took action to address this increased risk on the landscape by developing a proposal for biological corridors.</p>
4.2. Seascape	0 km <sup>2</sup>	8,311 km <sup>2</sup>	22 800 km <sup>2</sup>	<p>The value of 22,800 km<sup>2</sup> included in the 2014 PIR was an error. The actual total area of seascape benefitting both directly and indirectly from the project is <b>8,311 km<sup>2</sup></b>. This corresponds to the project target which actually looked at the <i>total</i> area (rather than focusing only on the indirect area). Taking into consideration only the area benefitting indirectly, this area would be <b>4,801 km<sup>2</sup></b> as a result of water exchange among water bodies (benefits from reduced land-based pollution and sedimentation); the passive transport of larvae and active transport of juveniles and</p>

				adults of fish species (benefits from sustainable fishery practices); changes to the sector in other municipalities of the SCE; and replication.
<b>Outcome 1: A strengthened enabling environment will exist for the financial, institutional, environmental and social sustainability of biodiversity conservation in the tourism, fisheries and agriculture / livestock sectors in the SCE.</b>				
1. % of hotels in ecologically sensitive areas within the SCE that are built according to planning guidelines that have incorporated biodiversity conservation recommendations (developed during project by tourism sector).	0	0.75	<i>"100% of new hotels (2) were constructed according to the locations and rules established in the existing Master Plan. The Environmental Authority is consulted during the undertaking of this assessment in order to determine if these rules have been taken into account or not. As a part of this entity, the SCE Project is consulted too. Nevertheless, and independently of this, and even though recommendations about biodiversity conservation issues are provided, the equipment used to construct infrastructure works is obsolete and some biodiversity impacts occur."</i>	The two hotels built in Ciego de Ávila adhered to the Sustainable Tourism Master Plan guidelines in terms of location and rules. As mentioned in PIRs, due to the nature of the available construction equipment, there are still some negative impacts on BD.
2. Frequency of access to an Environmental Information System for the Sabana Camagüey Ecosystem (SIAESC) by key stakeholders, including:		Frequency of access to an Environmental Information System for the Sabana Camagüey Ecosystem (SIAESC) by key stakeholders, including:	<i>"The following figures refer to the access frequency in % of selected stakeholders in terms of using technical information about the SCE, which is available at Municipality Centers, provinces and national institutes that participate in the Project [...]The planned self-automation was not deemed viable due to the limited existing connectivity in the country's municipalities. To solve this problem large financial resources not available through the Project would be required. Such expenses could not be agreed or be paid by the Government as a priority"</i>	Project outputs (from all three UNDP/GEF projects) available at the municipal Capacity Building Centres serve as a vital source of information on the Sabana Camagüey ecosystem, project activities, achievements, and tools developed through the project. Many municipalities did not have an information repository before the project and much of the ecological and other studies carried out on the SCE have been done through the UNDP/GEF interventions. The percentages of use by the different stakeholders represent estimates.
2.1. SCE municipal authorities	0% usage	0.75	0.8 <i>"At the municipal level, use happens in the</i>	The target was achieved.

			<i>Capacity Building Centers for Integrated Coastal Management. These entities are considered focal points for spreading environmental information. "</i>	
2.2. State enterprises	0% usage	0.6	0,8 <i>"Users are now aware that the Project organized an Information database and Repository on SCE.</i>	The target was achieved as state enterprises access information on the project through the CBCs, national institutes such as AMA, IES and IDO, and through the internet/intranet system set up at the Institute of Tropical Geography.
2.3. CITMA, EIA licensing authorities	0% usage	0.9	0,9 <i>"Users are now aware that the Project organized an Information Repository on SCE.</i>	The target was achieved as CITMA and EIA licensing authorities access information on the project through the CBCs, national institutes such as AMA, IES and IDO, and through the internet/intranet system set up at the Institute of Tropical Geography
3. Financial sustainability of biodiversity mainstreaming activities:				
3.1. % of operating costs of ICMA derived from sector based resources/mechanisms	0	0.5	<i>"The situation is similar to that reported before (in Midterm Evaluation Report and PIR 2013). During this PIR period the SCE Project continued working on proposals [...] in support of the Commission that will ultimately approve the proposal. The Project Direction continues highlighting how the issue of institutional sustainability of ICMA will be guaranteed. "</i>	A proposal was initially developed to be considered by the Intergovernmental Commission on Natural Resources for the development of an Advisory Board for the SCE. but later it was decided to submit a proposal to the Minister of CITMA for the establishment of a wider Advisory Board for Prioritized Ecosystems, which includes SCE. Its functioning would be based on the experience gained in the intervention areas belonging to this ecosystem. This Board has not yet been established but the plan is to secure funding for it both from the environmental sector and from the productive sectors.  At the level of the individual ZBRMICs that

				have been formally established, the operational costs of the local ICM boards are currently covered mainly by the government, including the provincial CITMA delegations.
3.2. Increase in sector budgets for actions related to environmental conservation in the SCE:				
3.2.1 Tourism Sector	\$2,820,000	\$4,075,000	<i>"In this PIR period, 12 275 000 USD were spent through Cuban State budget mechanisms. The tourist enterprises in charge of sanitation services collected around 21 800 m3 of waste. These wastes were classified for reuse. Some 119 000 m2 of beaches were cleaned and about 98 000 m2 of dune were rehabilitated. "</i>	The cumulative project total is 44,015,660. The target was therefore significantly exceeded.  The expenditures were related to the maintenance of dunes, management of solid waste and recycling, tertiary treatment of liquid waste, beach cleaning, landscaping using native species, establishment of nurseries with native species, and national and provincial personnel dedicated to Outcome 2, among others.
3.2.2 Fisheries and Agriculture sectors	\$456,700 and \$3,959,770 respectively	\$840,697 and \$6,667,281 respectively	<i>"In this PIR period: \$200,000 in the fisheries sector and 970 000 in the agriculture sector"</i>	The cumulative total investment over the course of the project is 2,359,700 for fisheries. This corresponds to the costs to ensure compliance in the area with fisheries regulations related to biodiversity conservation, actions related to the elimination of bottom trawling, and the salary of national personnel from the Centre for Fisheries Research who supported Outcome 3, and of provincial bodies that executed the pilot projects, among others.  The cumulative total investment over the course of the project is 7,035,700 for the agricultural/ forestry sector.  The targets were therefore exceeded. Expenditures included preparation of areas for agriculture, small and large livestock rearing, purchase of posts for live fences, contracts to organizations for the construction of

				<i>revolcaderos</i> in the buffalo UBPCs, maintenance and expansion of infrastructure in nurseries for forestry, and support for pilot projects, among others.
<b>Outcome 2: The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE.</b>				
1. % of new hotels in ecologically sensitive areas within the SCE that are planned with specific guidelines for biodiversity conservation in the following categories:				
1.1. With liquid waste treatment systems (tertiary treatment plants)	0.5	1	100% (2 hotels)	As mentioned for the similar indicator at the Objective level, the two hotels adhered to the Master Plan guidelines on construction. New hotels proposed for construction in the Camagüey province have not yet been built so it is not yet clear whether they will be planned based on these specific guidelines for BD conservation.
1.2. Use of native vegetation in gardens and landscaping	0.59	1	100% (2 hotels) <i>"Existing hotels have established micronurseries within their premises with native plants (in the cays).</i>	Micronurseries have permitted the use of native plants in these two hotels and at other existing hotels. The project also developed a manual on best practices in ecological gardening.
2. Percentage of visitors to the SCE participating in nature related activities	0.05	0.1	<i>"12%. This figure increased significantly because of domestic tourism participation in Protected Areas (pilot sites). This increase happened mainly in the areas of La Redonda Lake and Jobo Rosado Protected Area"</i>	The target with regard to percentage of visitors to SCE participating in nature related activities was exceeded.
3. Increase in the percentage of tourist packages that offer alternative models to "sun and sand"	0	0.1	<i>0.08 (8%). There has been a slight increase in alternative tourist packages in this period. In addition there has been an increase in the number of participants in nature excursions, over all, domestic tourism.</i>	The project contributed to an increase in tourist packages offering alternative models, however, the traditional sand and sun model is still the main tourism model in Cuba. Ongoing promotion of alternatives is required. Progress was made with the target nearly but

				not fully met.
4. # of new roads built following biodiversity friendly construction guidelines in ecologically sensitive areas	0	1	<p><i>Like the last year, no new roads were constructed during this PIR period; only some internal access roads to the new hotels that were designed and built according to the established Cuban standards.</i></p> <p><i>The National Standard proposal on road design and construction proposed by the project, including specific parameters which consider ecosystem fragility, was approved by the Environmental Sector Standard Committee last year .</i></p> <p><i>In this PIR period, in agreement with the yearly plan, this proposal will be circulated to be discussed at the expert level (universities, sectors) at the end of the present year.</i></p>	<p>New large hotel constructions have been proposed for the Camagüey province but the associated roads have not yet been built.</p> <p>The project developed a draft norm/ decree with specific guidelines on the construction of roadways in fragile ecosystems (small cays). This is norm is in being reviewed by stakeholders, with some ongoing discussion on the issue of road width for secondary roads. If/once approved, all new roads built in ecologically sensitive areas will have to take into consideration biodiversity-friendly construction guidelines.</p>
5. Decrease in coral reef mortality from diving activity	Less than 10%	Stable	<p><i>The programmed final coral cover assessment was not considered necessary. Further significant changes in coral cover attributed to coral reef management were not expected, with respect to the figures reported in previous PIRs (the same dive charge capacity has been in use for the past several years).</i></p> <p><i>Thus, significant change in coral cover could take place due to eventual action of natural events such as hurricanes or coral disease (including bleaching), but it is not the objective of this logframe assessment. Furthermore, most of the remaining coral species are environmentally resistant ones (e.g. Siderastrea siderea., Porites astreoides, Millepora complanata). It is concluded that there should still be 0% decrease at the end of the project with regard to local human impact.</i></p>	<p>The PMU indicated in previous PIRs since the ProDoc was signed that the correct formulation of the indicator should have been percentage of decrease in coral reef damage (rather than mortality) from diving activity. This is because measurement of mortality would have required complex and costly scientific investigations and would not reflect the specific impact of diving activity.</p> <p>This indicator was measured in 2010 and 2011. In 2010, the average percent of damaged corals was 2.6% of counted corals, with a minimum of 0% and a maximum of 5.2% in 11 diving points of two diving localities. In 2011, 2.97% of counted corals were damaged, with a minimum of 0% and a maximum of 7% in 23 diving points of four diving localities (these localities were not measured in 2010). Based on the reformulated indicator, the target was achieved.</p>
6. Revenues from taxes and fees on	\$0	\$200,000/ye	<i>During this PIR period, the discussions and</i>	This indicator was considered quite ambitious

tourism activities invested in biodiversity conservation within the SCE		ar	<i>analysis with representative tour operators continued to advance, related to a possible financial mechanisms to be implemented to contribute to biodiversity conservation, based in a part on tour operators' incomes.</i>	in the Cuban context given the economic policies. While proposals were developed through the project, unfortunately, the target was not met with regard to revenues from taxes and fees being reinvested in BD conservation.
<i>Outcome 3: Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored</i>				
1. Number of persons deriving incomes at least equal to that previously earned in commercial fishing, from the following sustainable practices:				
1.1. Cultivation of sponges	0 fishermen	14 fishermen	<i>The motor for the second vessel is ready, and at the moment there are 15 fishermen engaged in this task, working on the sponge farm. Another sponge farm is being replicated given the good results of the one promoted by the project.</i>	The target number of people deriving income from sponge cultivation was exceeded with 15 fishermen. This is expected to continue to rise as a result of a third sponge farm that will likely be inaugurated in June 2015 in the municipality of Martí, province of Matanzas, and that would involve an additional 6 workers.
1.2. Oceanic fisheries	0 fishermen	22 fishermen	<i>"The three vessels of this task are actually working (24 persons). An increment in the catches of deep snappers and groupers, specifically silk snapper ("pargo del alto"), was observed."</i>	The target number of people deriving income from oceanic fisheries was exceeded with 24 fishermen.
1.3. Cultivation of mangroves oysters	0 fishermen	36 fishermen	<i>"After the incorporation of a vessel with a new motor, 24 persons are working on the cultivation of mangrove oysters."</i>	A total of 24 people are benefitting from the cultivation of mangrove oysters (representing 67% of target). Oyster production has decreased over the last years due to environmental factors, including the passage of hurricanes, and the damming of some rivers which increased salinity levels and reduced nutrients, leading to a reduction in the areas with potential for oyster production.
2. Number of hectares of seascape	0 hectares	90 000 hect	<i>349 858 ha</i>	The target was vastly exceeded. The total area

under legal protection and demarcated for fishery reserves (estimate based on UNESCO guidelines of 12% of total fishing area - to be confirmed during year 1 of the project)				of 349,858 ha represents the area demarcated as fishery reserves <sup>11</sup> during the project implementation period. This figure exceeds UNESCO guidelines of 12% of total fishing area demarcated as fishery reserves.
3. Number of incidents of illegal fish catches per unit effort of enforcement per year within the SCE decreases	19.8 incidents / inspector in 2004	40% decrease	<i>"The number of incidents has remained the same (5 incidents/inspector, 75%). From now on, the work of the fishery inspectors will be executed by the coastguard authorities."</i>	The target was significantly exceeded as the number of incidents per inspector was reduced by 75% compared to the baseline to an average of 5 incidents per inspector. It should be noted, though, that the number of inspectors increased significantly compared to the baseline.
4. % of fish captured by commercial fisherman in bottom trawl nets and set nets that are below the legal size limit is reduced				
4.1. Bottom trawl nets	0.65	0.1	<i>"Eradication of bottom trawlers has been completed in the entire country"</i>	This indicator regarding the percentage of fish below the legal size limit in bottom trawl nets is not applicable, as the use of such nets has been prohibited since 2012.
4.2. Set nets	0.47	0	<i>"Eradication of set nets has been completed in the entire country."</i>	The indicator regarding percentage of fish below the legal size limit in set nets is not applicable, as the use of such nets has been prohibited since 2008.
5. Stabilization of habitat and fish stock conditions after bottom trawling ban in north of Villa Clara Province:				
Health of seagrass beds (shoots/m2)	250	0% decrease	<i>"The programmed final sea grass bed shoot density assessment was not considered"</i>	Sampling carried out in 2013 showed no significant difference in shoot density (average

<sup>11</sup> This includes Las Loras fishing reserve established in 2011 and a second fishery reserve that was established in 2012 in the province of Villa Clara where fishing is prohibited.

North of Villa Clara Province			<i>necessary because of the recent monitoring (In 2013). Significant changes in seagrass condition attributed to bottom trawling were not expected after the ban was implemented in 2012 through Fishery Resolution 503. Significant changes in sea grass shoot density could take place only due to eventual hurricanes, but it is not the objective of this log frame assessment. It is concluded that there should still be 0% decrease at the end of the project with regard to bottom trawling driven impact."</i>	= 213.7 shoots/m2). No final assessment was carried out in 2014/2015.
Health of seagrass beds (shoots/m2) Bahía de Nuevitás - Playa Bagá	350	0% decrease	<i>"This assessment area was decided to be removed in 2011 (because it is not currently a good fishing area due to both the effect of pollution coming from a river and that the bottom is predominantly softly muddy: see PIR-2013). Taking into account similar conditions in a nearby location (Cayo Puto) and the fact that baseline data was in the same magnitude as Playa Bagá, it was proposed to include this site as an alternative .  According to this new baseline, there was 0% decrease in 2013.  It is not considered necessary to make a final assessment in 2014 after such a short time span, and we take 2013 (in "Cayo Puto") as the end point indicator (0% decrease)."</i>	Data gathered in 2013 on an alternative site Cayo Puto indicated a 0% decrease in the health of seagrass beds. This was deemed to be the final assessment in 2013 due to the length of time to perceive changes in seagrass beds.
Increase in fish biomass (grams/m2) Nazabal region	0.57	0% decrease	<i>"The assessment of this area was cancelled due to reasons explained "</i>	This area was removed from the analysis because it was determined that it did not represent a good fishing area as a result of the pollution from the river and the fact that the bottom is predominantly soft mud.
Increase in fish biomass (grams/m2) Caibarién Zone	1.06	0% decrease	<i>"The original aim of this indicator was to assess the biomass of fish populations to show the effectiveness of the ban of bottom trawling (chinchorros). Given that "chinchorros" were effectively eliminated only on 2012, detectable</i>	Data from 2011 indicated that there was a decrease in fish biomass at 11 stations to 0.54 grams/m2, which was likely due to overfishing and to the activities of five bottom trawlers at that time. Further assessments were not made.

			<p><i>changes in fish communities are not expected to occur in such a short time.</i></p> <p><i>As it is known, degraded sea grass bed recovery is too slow, the same that happens with depleted fish biomass recovery, which depends on the recovery of seagrass beds. For that reason, it was decided not to spend resources to assess changes induced by the ban of bottom trawling, the outcomes of which will very probably not be perceptible, and assessment objective will not be achieved either. Seagrass bed recovery could take up to decades."</i></p>	<p>The PMU has indicated that the indicator was dependent on the assumption of the ban on bottom trawling being enforced earlier than 2012 to enable the seagrass beds to recover. However, indicators should be selected to measure project impact rather than to measure the impacts of an external policy, in this case, the ban on bottom trawling.</p>
<p>Increase in fish biomass (grams/m2) Puerto de Sagua</p>	0.68	0% decrease	<p><i>"The original aim of this indicator was to assess the biomass of fish populations to show the effectiveness of the ban of bottom trawling (chinchorros). Given that "chinchorros" were effectively eliminated only on 2012, detectable changes in fish communities are not expected to occur in such a short time.</i></p> <p><i>As it is known, degraded seagrass beds recovery is too slow, the same what happens with depleted fish biomass recovery, which depends on the recovery of seagrass beds. For that reason, it was decided not to spend resources to assess changes induced by the ban of bottom trawling, the outcomes of which will very probably not be perceptible, and the assessment objective will not be achieved either. Seagrass bed recovery could take up to decades".</i></p>	<p>No assessments were made of this indicator. In 2011, the PMU reported that there was still a bottom trawler operating in the area. This was eliminated in 2012 but the PMU indicated that it would take time to perceive recovery. Despite this reasoning, this evaluation considers that the indicator should still have been monitored, as the monitoring of indicators in the SRF constitutes an essential element of the M&amp;E Plan.</p>
<p><i>Outcome 4: The sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the SCE</i></p>				
<p>1. No. of hectares within the SCE formerly dedicated to sugar cane production now under biodiversity friendly agriculture, livestock and/or forestry management in pilot projects (demonstration and</p>				

replication sites)				
1.1. Guamuta Cooperative Farm – Sergio Gonzalez Enterprise (demonstration site)				
1.1.1. Protected Forest	0 hectares	145 hectares	<i>111.2 hect</i> <i>"In the case of Guamuta demonstrative site, the total of hectares achieved in this PIR period (1492.2 hectares) is higher than the total compared to the total of target hectares planned (1023 hectares). This is because of plans for specific land uses (livestock area, various crops) were modified during project life. The total sum is a higher value than the target."</i>	The target in terms of protected forest was not quite reached, though progress was made with 111 ha.
1.1.2. Plantation Forest (native and exotic species)	8.3 hectares	578 hectares	<i>551 hect</i>	The target in terms of area of plantation forest planted was almost reached with 551 ha, using both native and exotic species. It would have been useful to track the area of each to determine how much of the forest was planted with native species.
Fruit trees	3.1 hectares	67 hectares	<i>150 hect</i>	The target for area under fruit trees was exceeded at this demonstration site.
1.1.3. Various Crops	9.4 hectares	91 hectares	<i>30 hect</i>	There was less area used for crop production than planned by project end. This was due to the decision that crop production would not achieve the greatest impact on biodiversity in this area that is associated with migratory of birds.
1.1.4. Livestock area	0 hectares	142 hectares	<i>650 hect</i>	The livestock area exceeded the project target significantly, as a result of a reduction in the area devoted to various crops (a decision made by the sector)..
1.2. Montelucas Cooperative Farm (Unidad Proletaria Enterprise) (replication site)				

1.2.1. Forest (natural and plantation)	4.0 hectares	300 hectares	220 hect	Progress was made in terms of natural and plantation forest though the target was not fully met. It would have been useful to track the area planted with native versus exotic species.
1.2.2. Fruit trees	1.0 hectares	50 hectares	26 hect	The target under fruit trees was not reached.
1.2.3. Various Crops	16.6 hectares	80 hectares	19 hect	The target for area with crops was not reached.
1.2.4. Livestock area	844.2 hectares	1,605 hect	"756 hectares (This figure includes the 756 hectares in this PIR period. In the total of items there was a decrease from 2230 to 1021 hectares (46%) in this period. This is due to delivered lands to be used for sheep and goats rising, for a small amount devoted to sugar cane, and varied crop cultures. These changes in land use do not affect biodiversity conservation."	The target for livestock area was not reached.  It should be noted that in Montelucas Cooperative Farm, some lands were transferred to other uses, such as sugar cane production, as well as sheep and goat production with sustainable production methods.
2. Area of sustainable, biodiversity-friendly management of livestock (buffalo):				
2.1. La Magdalena Cooperative Farm (Aracelio Iglesias Enterprise) (demonstration site)	0 hectares	1520 hect	4920 hect <i>"This value is higher than the total planned target."</i>	The area under sustainable buffalo management significantly exceeded the project target.
2.2. Yarual Cooperative Farm (Bolivia Enterprise) (replication site)	0 hectares	1220 hectares	2000 hect <i>"This value is higher than the total planned target."</i>	The area under sustainable buffalo management significantly exceeded the project target.
3. Number of local inhabitants benefiting directly from sustainable livelihoods in biodiversity friendly agriculture, forestry, or livestock raising at the pilot sites				
3a. Guamuta Cooperative Farm	0 persons	552 persons	380 persons	Target number of beneficiaries at Guamuta Cooperative Farm was not fully met. Many people decided to exploit the land as

				independent users (usufruct).
3b. Monte Lucas Cooperative Farm	0 persons	596 persons	420 pers	Target number of beneficiaries at Monte Lucas Cooperative Farm was not fully met. Many individuals decided to exploit the land as independent users.
3c. La Magdalena Cooperative Farm	0 persons	24 persons	1500 persons (Elevation of the figure with respect to PIR 2013 is a result of a detailed revision in all demonstrative sites. A total of 375 families live in this Cooperative Farm and through the use of these sustainable practices, a total of 1500 persons are directly benefiting.	Target number of beneficiaries at La Magdalena Cooperative Farm was greatly exceeded.
3d. Yarual Cooperative Farm	0 persons	24 persons	82 persons	Target number of beneficiaries at Yarual Cooperative Farm was significantly exceeded. When assessing the total number of beneficiaries at the four cooperative farms, the cumulative total exceeds the sum of the project targets.
4. Number of persons employed on all reconverted sugar lands within SCE benefiting indirectly from demonstration of sustainable livelihoods opportunities for these lands	0 persons	14000 pers	7700 persons	The target was not met in terms of indirect beneficiaries of demonstration of sustainable livelihoods. The target was believed to be very ambitious. Furthermore, some idle lands were transferred to individuals for agricultural use. Nevertheless, the number of indirect beneficiaries is still high at 7700 people.
5. Area of natural coastal forest protecting coastal and marine biodiversity:				
a)Chambas Municipality (Ciego de Avila province)	1246 hectares	2 246 hect	1750 hect (609 ha native species)	The target for the municipality of Chambas was not reached.
b. Bolivia Municipality (Ciego de Avila province)	2000 hectares	3959 hect	2945 hect (234 ha native species)	The target for the municipality of Bolivia was not reached.
c. Moron Municipality (Ciego de Avila province)	4000 hectares	4300 hect	4616 hect (460.2 ha native species)	The target for Moron Municipality was exceeded.

d. Minas Municipality (Camagüey Province)	8000 hectares	8500 hect per year	8948 hect (1560 ha native species)	The target was reached at Minas.
e. Marti Municipality (Matanzas Province) (replication site)	21075 hect	23441 hect	23550 hect (Information not available on native species)	The target for the municipality of Marti was reached.
6. Decrease in organic contaminant loads, measured in Nitrogen (NT), Potassium (PT), and Biological Oxygen Demand (BODsed), from converted sugar cane lands to inshore marine areas and reef areas				
W Bahía de Cárdenas:	NT=34.65 micromol/L, PT=0.31 micromol/L, BODsed=3.65 mg/g (Please note that the baseline had erroneously been reported as the BOD of the water, not of the sediment with a value of 1.57 mg/L)	Stable or less than baseline level:	<i>Changes related to management actions were not expected to occur during this PIR period and in the remaining short time of the project. However, changes could take place associated to variability of rainfall intensity or the occurrence of extreme meteorological events. Impacts of anthropogenic origin (e.g., land based pollution) are not expected either. In the case of the eventual occurrence of significant stressors, the relevant institution with the technical support of the project would take the relevant actions to avoid major impacts on coastal ecosystems. Extreme climatic events did not occur since the 2013 assessment.</i>  <i>In the present time we have learnt and consider that such very high intra-annual variability of water/sediment quality indicators is not appropriate for assessing project performance at an inter-annual scale if the purpose is to assess changes associated to management actions.</i>  <i>For that reason, it was not considered necessary to plan a final term assessment after such a short time. We also consider that conditions are still close to stable (with its intrinsic variability) compared to the baseline.</i>	2013 data: NT= 60.84 micromol/L, PT= 0.64 micromol/L, BODsed = 4.82mg/g The PMU indicated that the values may have been negatively impacted by a very rainy season, whereas the baseline was gathered in a dry season. It is important in the future to ensure that indicators are measured under the same conditions as the baseline to permit comparison.

<p>W Bahía de Santa Clara:</p>	<p>NT = 27.29 micromol/L, PT=0.40 micromol/L, BOD sediment = 3.4 mg/g (Please note that the baseline had erroneously been reported as the BOD of the water, not of the sediment with a value of 2.31 mg/L)</p>	<p>Stable or less than baseline level</p>	<p><i>Changes related to management actions were not expected to occur during this PIR period and in the remaining short time of the project. However, changes could take place associated to variability of rainfall intensity or the occurrence of extreme meteorological events. Impacts of anthropogenic origin (e.g., land based pollution) are not expected either. In the case of the eventual occurrence of significant stressors, the relevant institution with the technical support of the project would take the relevant actions to avoid major impacts on coastal ecosystems. Extreme climatic events did not occur since the 2013 assessment.</i></p> <p><i>In the present time we have learnt and consider that such very high intra-annual variability of water/sediment quality indicators is not appropriate for assessing project performance at an inter-annual scale if the purpose is to assess changes associated to management actions.</i></p> <p><i>For that reason, it was not considered necessary to plan a final term assessment after such a short time. We also consider that conditions are still close to stable (with its intrinsic variability) compared to the baseline.</i></p>	<p>2013 data: NT= 25.03 micromol/L, PT= 0.47 micromol/L, BODsed = 4.35mg/g NT and PT were stable compared to the baseline, while BODsed increased somewhat. The PMU indicated that this may have been due to the fact that the measurement was made during the rainy season. As mentioned for the previous indicator, it is important to measure indicators under the same climatological conditions as the baseline to facilitate comparison.</p>
<p>Ensenada de Carbó (Bahía Buenavista):</p>	<p>NT=175.41 micromol/L, PT=5.00 micromol/L, BODsed=4.05 mg/g (Please note that the baseline had erroneously been reported as the BOD</p>	<p>Stable or less than baseline level</p>	<p><i>Changes related to management actions were not expected to occur during this PIR period and in the remaining short time of the project. However, changes could take place associated to variability of rainfall intensity or the occurrence of extreme meteorological events. Impacts of anthropogenic origin (e.g., land based pollution) are not expected either. In the case of the eventual occurrence of significant stressors, the relevant institution with the technical support of the project would take the relevant actions to avoid major impacts on</i></p>	<p>2012 data: NT=76.15 micromol/L, PT=0.33 micromol/L, BOD (sediment) = 3.47mg/g  Although the PMU has explained why further assessments after 2012 were not carried out because of the assumption of no further changes, this evaluation considers that end-of-project monitoring should have been carried out to provide quantitative figures to back up</p>

	of the water, not of the sediment with a value of 5.58 mg/L)		<p><i>coastal ecosystems. Extreme climatic events did not occur since the 2013 assessment.</i></p> <p><i>In the present time we have learnt and consider that such very high intra-annual variability of water/sediment quality indicators is not appropriate for assessing project performance at an inter-annual scale if the purpose is to assess changes associated to management actions.</i></p> <p><i>For that reason, it was not considered necessary to plan a final term assessment after such a short time. We also consider that conditions are still close to stable (with its intrinsic variability) compared to the baseline.</i></p>	these assumptions (the sample applies to the following indicator).
Cerca del Río Máximo	NT=15.52 micromol/L, PT=0.88 micromol/L, BODsed=2.80 mg/g (Please note that the baseline had erroneously been reported as the BOD of the water, not of the sediment with a value of 1.97 mg/L)	Stable or less than baseline level	<p><i>Changes related to management actions were not expected to occur during this PIR period and in the remaining short time of the project. However, changes could take place associated to variability of rainfall intensity or the occurrence of extreme meteorological events. Impacts of anthropogenic origin (e.g., land based pollution) are not expected either. In the case of the eventual occurrence of significant stressors,, the relevant institution with the technical support of the project would take the relevant actions to avoid major impacts on coastal ecosystems. Extreme climatic events did not occur since the 2013 assessment.</i></p> <p><i>In the present time we have learnt and consider that such very high intra-annual variability of water/sediment quality indicators is not appropriate for assessing project performance at an inter-annual scale if the purpose is to assess changes associated to management actions.</i></p> <p><i>For that reason, it was not considered necessary to plan a final term assessment after such a short time. We also consider that</i></p>	<p>2012 data: NT=25.29 micromol/L, PT=0.82 micromol/L BOD sediment= 2.95 mg/g NT increased, PT was stable, BOD increased. It is believed that the increase in NT and BOD was due to the fact that the measurements were taken in a rainy season after a long dry season, and as such there was sediment discharge as well as a breakdown of the organic material that had accumulated on the ocean floor.</p>

			<i>conditions are still close to stable (with its intrinsic variability) compared to the baseline.</i>	
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## 5.5 Efficiency

108. The project is considered to have used GEF funds very efficiently. The salaries of the Project Management Unit, including national and provincial project coordinators, technical coordinators of Outcomes 2-4 and project advisors, were all covered by co-financing, as is always the case for projects in Cuba. This freed up more funding for project activities. In addition to the government support for project personnel costs, there was substantial co-financing in terms of the provision of venues for the Capacity Building Centres, electricity costs, and various pilot projects expenses, among others. Other donors, such as WWF Canada and Ecodesarrollo, also contributed resources to the project. The final co-financing amount significantly exceeded the amount committed in the ProDoc.

109. High levels of participation of different institutions, research centres and productive enterprises greatly increased the scope of what the project could achieve with the given funds (see Partnerships section). Moreover, the project created synergies with other projects to jointly carry out various project activities and to maximize impacts. For example, the training of tour operators on nature tourism was carried out in conjunction with the UNDP/GEF Southern Archipelagos project to share costs. The project also liaised with the UNDP/GEF Small Grants Program, resulting in support for an additional sponge farm. Another example of efficiency since 2010 is the fact that annual meetings of the Project Management Unit, including national coordinators, provincial coordinators and sectoral coordinators, were held in conjunction with meetings of the experts associated with the Capacity Building Centres/ ICM.

## 5.6 Country Ownership and Relevance

110. Stakeholders interviewed concurred that the project was highly relevant. As pressures on the natural resources of the Sabana Camagüey ecosystem from tourism, agriculture, and fisheries increase, the need to ensure greater sustainability becomes increasingly recognized. In addition, sectors such as fisheries and nature tourism depend directly on the biodiversity present in the SCE.

111. The government has shown strong ownership of the project. The project Outcomes related to tourism, fisheries and agriculture were the responsibility of the Ministries representing these key sectors, which served to enhance their involvement in the initiative and dissemination of the results. Generally, there were very high levels of participation of stakeholders at national, provincial and local levels and from various institutes, which signaled substantial support for the project's objectives. As described in detail in the co-financing section, government co-financing exceeded original projections significantly.

112. One key indication of country ownership of the project is the incorporation of numerous issues tackled by the project into national policies as well as various proposed new norms. These include:

- approval of Resolution on the declaration of Zones Under Integrated Coastal Management (ZBRMICs)
- approval of seven Zones under Regime of Integrated Coastal Management (ZBRMICs) in the Sabana Camagüey ecosystem;
- approval of nine environmental planning exercises in municipalities;
- development of proposed Cuban norm on sustainable management of confined buffalo in coastal zones, which is in an advanced stage of discussion within the parliamentary system;
- drafting of proposed norm on the sustainable construction of roadways in fragile ecosystems (small cays), also pending approval; and
- proposed resolution modifying existing ICM resolution to integrate an ICM Advisory Board, taking into consideration the increasing number of ZBRMICs in important ecosystems of the country.

113. The project is also contributing to the development and use of new sectoral guidelines and plans, such as the manuals of best practices for hotels and for ecological gardening in the tourism sector and a system of indicators of tourism sustainability that takes into account biodiversity. In the fisheries sector, a Strategy for the Development of Aquaculture is being put forth by the Fisheries Department of the Ministry of Food Industry, which incorporates project experiences in sponge and oyster cultivation.

114. Further political support is still required to continue progress on the issue of financial sustainability and to put in place national policies to increase the financial resources available for integrating BD considerations in key sectors. In addition in some cases, there are opportunities to enhance government support for specific activities initiated with the project. For example, for the sustainable tourism project in Rio Máximo Wildlife Refuge, which was a replication of the originally proposed pilots, the state-owned company responsible for managing the protected area (National Enterprise for the Protection of Flora and Fauna) has not yet provided co-financing to complete the tourism infrastructure developed with project, although they have signaled their commitment to do so (they indicated that they have the budget and material resources to do so in 2015).

## **5.7 Mainstreaming of UNDP Priorities**

115. The Sabana Camagüey project successfully mainstreamed key UNDP priorities, notably poverty reduction, disaster reduction, gender equity, and South-South cooperation. The project also contributed to UNDP Cuba's strategic priorities.

### *Poverty reduction*

116. The pilot projects carried out under Outcomes 2-4 for the tourism, fisheries and agricultural sectors, respectively, were designed to provide new models of sustainable livelihoods. With regard to agriculture, the project design focused strategically on providing alternatives to farmers who lost their employment when there was a significant reduction in national sugar cane production and the closure of several sugar cane plants. This involved promoting sustainable agriculture, including small-animal husbandry, buffalo rearing and forestry. These pilots were associated with increased incomes and food availability for communities (milk, meat). The pilot projects in the fisheries sector also came at an opportune moment, in light of the declines in coastal fishery catches and the government prohibition of bottom trawling in 2012. The project promoted oyster cultivation, sponge cultivation and high seas fishing through pilot projects and their replication. The oceanic fisheries pilot projects led to increased quality and quantity of fish of high commercial value and better prices. Between 2008 and 2013, the catch of silk snapper increased from 2 metric tonnes to 16 metric tonnes, with the technological improvements introduced by the project. Sponge cultivation was found to be profitable and sales to a French buyer were high; for example, USD 21,000 in sales were made for the fishing cooperative. Oyster cultivation was also financially viable for participants. Besides the income obtained from aquaculture, the greater distribution of revenues over time represents another benefit. For example, oysters can be harvested from the oyster farm when there are wild oyster harvesting bans in place. Both oyster and sponge cultivation were traditional practices that had been lost but were revitalized with these pilot projects. Finally, in terms of tourism, project funding led to the development/ strengthening of nature tourism products, which could increase incomes for locals living near protected areas, particularly when the associated services are privately run, as is planned to be the case with the kayaking pilot project.

117. Economic valuation studies were carried out to determine the costs and benefits of the different productive alternatives promoted by the project. Most were found to be economically feasible in the short or medium term. Initial investments were required for many of these alternatives, which were usually

recovered quickly (e.g., in terms of animal husbandry).

### *Gender*

118. The project coordination at the national and provincial levels and the Capacity Building Centres were led by a significant proportion of women, reflecting the overall high participation of women in the Cuban professional workforce. For example, both the Project Director and Project General Administrator are female and 19 of the 22 Capacity Building Centres are directed by women.

119. A number of the pilot projects with key productive sectors provided benefits to women. Notably, several nurseries were set up for reforestation, using the technology of trays with built-in cells (*tubetes*). Interviews carried out during the Final Evaluation with female workers indicated that this technology greatly improved their working conditions, as they no longer needed to work on the ground. Women also participated in important numbers in the oyster and sponge cultivation pilot projects. On the Basic Units of Cooperative Production where biodigestors were established, working conditions for women were improved through the use of gas stoves, reducing the need to cook with fuelwood. Environmental education in some communities participating in the project highlighted the importance of reusing materials, which led to some initiatives by women to craft dolls and other products.

### *Disaster risk reduction and climate change*

120. The project took into consideration disaster risk reduction and climate change and their linkages with ICM and biodiversity conservation in several ways. The Integrated Coastal Management Programs developed at the municipal level include actions to reduce vulnerability and adapt to climate change. Moreover, the environmental plans incorporated climate change forecasts as one of the layers in the analysis. There are numerous examples of activities promoted by the project in cooperation with key productive sectors that address climate change, such as:

- Building of pathways on dune systems to help conserve these ecosystems, which protect coastlines from coastal hazards, such as erosion and flooding, and from the effects of climate change, such as increasing sea levels (together with Ministry of Tourism);
- Use of native plants in hotel establishments because these require less watering and therefore represent an adaptive measure under conditions of water scarcity (with Ministry of Tourism);
- Reforestation of coastal forests to help protect coastlines from extreme weather events and help mitigate climate change (with the Ministry of Agriculture), including planting of mangroves in one specific area of the municipality of Bolivia;
- Support for Coral Reef Early Warning Voluntary Monitoring Network, to monitor coral bleaching, which is associated with climate change;
- Construction of stables for small livestock, such as goats, which reduces mortality during drought conditions (together with AZCUBA and the Ministry of Agriculture).

121. To highlight project actions and achievements in this respect, the final publication of the project includes a chapter on biodiversity and climate change.

### *South-South cooperation*

122. There were various occasions of South-South cooperation and information sharing. For example, representatives of five municipalities in the SCE presented their experiences of ICM at the municipal level at the World Congress on Ocean Science (COLACMAR) in September, 2013. Also in 2013, the project presented information on the participation of local communities in aspects related to the

Convention on Biological Diversity (CBD) at the Eighth Meeting of the Working Group of Article 8j at the Secretariat of CBD Headquarters in Montreal, Canada. Project achievements were also shared at the VIII Congress of Protected Areas held in Havana in 2013.

#### *Contribution to UNDP Country Program*

123. The project is consistent with the agreed priorities outlined in the UNDP Country Programme Document (CPD) and the Country Program Action Plans (CPAPs) for 2008-2012 (which was extended to include 2013) and 2014-2018. One of the key themes of the 2008-2012 CPD is Environment and Energy for Sustainable Development and one of the expected results is the promotion of strategies for the conservation and sustainable use of biodiversity in protected ecosystems and productive sectors. One of the thematic areas of the 2014-2018 CPD includes Environmental Sustainability and Disaster Risk Management. Accordingly, UNDP Cuba will work toward integrating environmental considerations and risk reduction with economic development and the integrated management of ecosystems to strengthen resilience to the impacts of climate change, in the context of Cuba's environmental strategy.

## **5.8 Sustainability**

### *Institutional and governance framework sustainability (Likely)*

124. The project succeeded in significantly strengthening the institutional and governance framework for Integrated Coastal Management and in increasing the ability of key productive sectors to integrate BD considerations. The following paragraphs will highlight key achievements in this respect, which have also been described in detail in the Results section. Extensive capacity building was carried out throughout the project (as well as in the first two projects implemented in the ecosystem), leading to greater abilities among key institutions and sectors to implement sustainable productive practices and to manage impacts. It is important to mention that 20 Capacity Building Centres were established and equipped through the project, and two others were established outside of the SCE. Based on interviews with stakeholders, these will continue to be used as venues for capacity building in the future. In addition, the issues of ICM and sustainable production were integrated into the curricula of learning institutes, such as the University of Matanzas and the Costatenas Group (in the case of ICM) and the System of Schools for the Development of Tourism Capacity in the entire country (sustainable tourism).

125. The project initiative led to a Resolution in 2009 on the requirements and procedures for the Declaration of Zones under Integrated Coastal Management (ZBRMIC). In addition, with project support, proposals for three important policies were developed, including for the sustainable management of confined buffalo in coastal zones and for the sustainable construction of roadways in small cays. Work is also being carried out to update the resolution on the Declaration of ZBRMICs in order to include an article for the creation of an ICM Advisory Board. A total of seven ICM Programs were developed and formally approved, covering 16 municipalities, complemented by two-year ICM plans, which set out clear responsibilities. Local ICM Boards were established for each of these programs to monitor implementation of the Programs. CITMA representatives at the municipal level provide oversight in terms of compliance with the Programs. The project also resulted in nine municipalities carrying out environmental planning for the first time, using and validating a methodology that was developed through the project by the Institute of Tropical Geography. This is starting to be applied elsewhere in Cuba through the Institute of Physical Planning. These environmental plans are integrated and complement the existing land use plans.

126. A manual of best practices for hotels was developed, which was disseminated to hotels in the area, as well as a manual on ecological gardening to promote greater use of native plant species by hotels. There is ongoing work to review proposed indicators of sustainable tourism outside of protected areas, which if approved, would apply to the entire country and would be mandatory. With regard to fisheries, a manual on fishing gear was developed by the Centre of Fisheries Research, however, this does not include specific text on biodiversity apart from one mention in the introduction. While further work to strengthen the policy framework, particularly within key sectors, is still required, the project impacts in this respect are considered sustainable. Moreover, existing accountability systems are believed to be effective in terms of assuring the sustainability of these impacts.

### ***Socio-political sustainability(Likely)***

127. There are no significant socio-political risks to project sustainability. Recent decisions by the government demonstrate commitment to protecting Cuba's natural resources; in this respect it is worth highlighting the 2012 prohibition of trawling throughout the country, the 2008 national prohibition of set nets, as well as the moratorium on mangrove deforestation. In addition, during the project implementation period, a resolution on Integrated Coastal Management was approved in 2009 that outlines the requirements and procedures for the declaration of ZBRMICs. The government committed substantial co-financing to the project and provided the physical venues for the Capacity Building Centres as well as staffing and other costs, such as electricity and maintenance of infrastructure.

128. The project succeeded in increasing awareness levels and attitudes among governments, communities and sectoral interests on the values of the Sabana Camagüey ecosystem and on sustainable productive practices that reduce threats to BD. Environmental education at the local level was also integrated into the project, enhancing social support for conservation and sustainable livelihoods. This work, particularly with sectors and communities, needs to be ongoing to ensure that BD conservation remains a priority, as pressures on the ecosystems and natural resources of the archipelago are expected to increase in the future, particularly in light of the changing relations with the USA. Livelihood needs can threaten biodiversity, which is why the pilot projects put in place through the project are so relevant and require further replication.

### ***Financial sustainability (Likely)***

129. The project dedicated significant efforts to the issue of financial sustainability. This contributed to the fact that the key sectors now invest greater resources in sustainable activities (this was one of the indicators in the project SRF and the target was surpassed). Incomes have also increased from implementation of the sustainable productive activities introduced through the pilot projects. For example, strengthened buffalo management has substantially increased revenues for agricultural cooperatives through sales of milk and meat (as well providing food for the workers' consumption); both the high sea fishing and the sponge cultivation have been successfully marketing the products; and forestry workers received additional bonuses as a result of high plant survival rates. These positive economic impacts mean that stakeholders have a vested interest to continue to implement the practices.

130. Through the project, economic valuation studies were carried out on pilot projects to analyze incomes, expenses, and other factors, which was the first time such studies were carried out in the Cuban context. The results showed that many of the activities are feasible in the short or medium term. There are some initial investments required but in many cases these are low (such as in sponge and oyster cultivation) and/or recovered quickly. It should be noted that not all the benefits of the pilot projects were quantified; for example, with the sustainable buffalo production, the value of reduced soil compaction and thus decreased land degradation were not included in the analysis, suggesting that the benefits of such

practices are even higher if all ecosystem services are taken into account. The economic analyses carried out provide information that will help Cuba with the future development of economic instruments. To expand on this work on financial sustainability, Cuba plans to submit a project in GEF-6 focused on economic valuation of ecosystem services.

131. The formal approval of Integrated Coastal Management programs in many municipalities means that annual municipal plans need to incorporate activities to implement the programs and that the programs will have an associated budget. In addition, stakeholders are actively seeking funding through other projects, both at the national and international levels, to support implementation of ICM actions and sustainable productive activities. A number of recent developments in Cuba in terms of economic policy strengthen the financial sustainability of project impacts. Many municipalities will now have access to funds to manage themselves, as a result of the decision in 2013 that 1% of incomes from municipal-level companies will revert back to them. Other sources of funding include money for communities from the Fund for Local Development, funds from FONADEF for reforestation, and from the National Environmental Fund for projects addressing environmental problems. In addition, agricultural cooperatives are no longer state-owned they can therefore manage their own financial resources and can request credit from banks.

132. On the other hand, it must be mentioned that financial resources are limited for activities such as promotion of sustainable productive activities, national workshops, fisheries research, surveillance and biodiversity monitoring (especially in marine areas where the costs of vessels and fuel are higher). As a result, it is likely that there will be somewhat of a reduction in the scale of activities carried out with the project, although the evaluators consider that all of the main activities initiated by the project will continue to be carried out after the project. As an example of funding limitations, the evaluation team learned firsthand of the limited resources available for the management of the Rio Máximo wildlife refuge and promotion of nature tourism there, despite its potential to be a significant tourism attraction as the largest flamingo nesting site in the Caribbean. The funds that come in from tourists here and elsewhere generally do not revert back to the protected areas to increase sustainability. It is also a reality in Cuba that there is little money available to provide maintenance to equipment and to purchase new equipment and supplies should they be needed, since it is difficult for state institutions to import goods. Developers of proposed new hotels in the cays of Camagüey province have indicated that they do not have all the equipment to implement best construction practices to reduce BD impacts. Continued efforts to identify the necessary funds for financial sustainability will therefore be very important.

#### *Environmental sustainability (Likely)*

133. The Sabana Camagüey ecosystem is highly vulnerable to extreme events and to climate change. Hurricanes pass by the Northern coast of Cuba and their frequency is expected to increase under climate change. Climate change scenarios also predict significant rises in sea levels. Impacts are already being felt, with increase in coral bleaching events, for example. As a result, ecosystems such as coral reefs, mangroves and seagrass beds are at risk. However, the project took important steps to reduce vulnerability and promote adaptation through environmental planning, which was carried out in nine municipalities and which took into consideration climate change scenarios. In addition, the Integrated Coastal Management Programs for 16 municipalities in the SCE incorporate actions to adapt to climate change (please see Mainstreaming disaster risk reduction and climate change section for more details).

## 5.9 Global Environmental Benefits/ Impacts

134. The project contributed to key impacts in terms of stress reduction and the creation of an enabling environment that favours BD conservation, which is expected to lead to global environmental benefits. In particular, fisheries data gathered through the project supported the introduction of a government policy to prohibit bottom trawling nationwide in 2012, which will have huge benefits for seagrass beds and the sustainability of the fish populations at an ecosystem scale. Project activities also led to greater awareness among key sectors on how to integrate biodiversity conservation into their productive activities; it contributed to increased sectorial investments in BD mainstreaming; and it produced tools such as best practice manuals that are expected to increase adoption of sustainable productive practices. As highlighted in the sustainability section, there are no substantive risks to the permanence of project impacts, but further follow-up on the development of financial mechanisms for BD mainstreaming and for upscaling of pilot project activities in particular will be important.

135. The project logical framework included several indicators of ecological impact related to the maintenance of the baseline values for mangrove area, coral reef coverage, biomass of key fish species and area of seagrass beds. The final project impact on these indicators is difficult to define in a definitive manner due to three main factors: 1) the baseline was calculated four years before project implementation began (in many cases in 2004 during the PPG phase); 2) not all indicators were measured at project end, leading to limitations in the final data available; and 3) external factors have a significant impact on the health of these key ecosystems, such as bottom trawling (in particular on seagrass beds and fish biomass).

136. The data that were gathered were generally in line with the targets established in the Strategic Results Framework, with a few exceptions. The area of mangroves increased by 280 km<sup>2</sup> by project end, exceeding the project target (which was to maintain the same area as the baseline). This increase can be attributed to reforestation through the project combined with the government moratorium in 2010 on mangrove deforestation. Coral reef coverage was maintained (and in one case increased), at least until the time that the latest sampling was carried out in 2013, as per the indicator established in the Strategic Results Framework. In addition, coral reef damage in key diving sites was maintained at less than 10%. This is despite the fact that coral reefs have shown a general decline throughout the Caribbean as a result of climate change-associated ocean warming, and more extreme high temperature events, contributing to an increase in coral bleaching. In the case of seagrass beds, these were damaged substantially by the impact of bottom trawlers over many years. This activity was only finally outlawed in 2012, more than halfway through the project. Project monitoring suggests that seagrass density showed a 0% decrease in one site (as per the target for this indicator), decreased in another site and was not measured in a third site. While biomass of fishes is dependent on the recovery of these seagrass beds, the sampling that was carried out in 2011 and 2013 indicated that there were no statistical differences in fish biomass compared to the baseline, in line with the target for this indicator. Finally, sampling of contaminant loads associated with agricultural activities showed that some values remained stable, others decreased and some increased (such as BOD in some areas). This was believed to be due to the fact that the sampling was carried out during the rainy season, while the baselines were established in the dry season. The details related to level of achievement of each of the ecological indicators can be found in Table 5.

137. Overall, the project led to 3510 km<sup>2</sup> of seascape under biodiversity-friendly management by the fisheries sector. Indirect benefits were also experienced over an area of 27,878 km<sup>2</sup> of landscape and 4,811 km<sup>2</sup> of seascape. Through the project, 882 ha were reforested (both for conservation and for production in plantations) and a total of 41,809 ha of natural coastal forest was managed through the project. The area under legal protection has also increased, with 3498.58 km<sup>2</sup> (349 858 ha) included in fisheries reserves. In addition to the various environmental impacts, the project put in place models for

sustainable productive practices, led to increases in employment and increased incomes for local inhabitants of the Sabana Camagüey ecosystem, as detailed elsewhere in this report.

## 5.10 Conclusions

138. The Environment Agency and UNDP Cuba Office managed this project efficiently and conscientiously. High levels of communication and coordination among the EA, IA and key stakeholders played an important role in the effectiveness of the project. Project planning was carried out in a participatory manner at all times. Moreover, the EA employed adaptive management successfully on various occasions to deal with changes in the national context related to socio-economic policies, extreme weather events and other factors. In terms of monitoring and evaluation, regular quarterly and annual reporting, visits to field sites and activities such as the inception workshop and Mid-Term Review were satisfactorily carried out. The project did experience some difficulties in monitoring some of the ecological indicators, particularly the marine ones, due to various factors such as unavailability of vessels, high costs of renting those that were available, delays in obtaining permits from the Cuban authorities, and the time lags in observing ecological changes. As such, not all indicators were measured at project end. As Implementing Agency, UNDP provided effective support in terms of budgetary execution and procurement, M&E, technical inputs, revisions of publications, and knowledge management in general.

139. The project led to the publication of a large number of documents on the SCE related primarily to biodiversity, ICM, and sustainable financing. The large amount of information produced through the project is now available in an information repository that has both intranet and internet access, though internet connectivity issues still affect the ability to download some of the heavier documents. Media coverage and participation in events at local and international levels served to increase project visibility. Further work to disseminate key project outputs to local and national stakeholders as well as within the UNDP and GEF systems would be useful to highlight the achievements and lessons learned in this groundbreaking biodiversity mainstreaming project.

140. This third phase of UNDP/ GEF support to the government of Cuba's intervention in the SCE focused on consolidating Integrated Coastal Management and integrating conservation with sustainable production activities. It was considered highly relevant by stakeholders and benefitted from high levels of participation of a wide array of actors and extensive inter-institutional collaboration. Co-financing amounts exceeded projections and contribute to significant project ownership.

141. Capacity building and training were extensive and were facilitated by the creation/ consolidation of a network of Capacity Building Centres for ICM that includes 20 of such Centres in the SCE. Local governments, community members, CITMA specialists, productive sectors and others increased their level of understanding of the biodiversity values in the SCE, of ICM and of sustainable production. The project played a key role in the development and implementation of Integrated Coastal Management. An ICM methodology was adapted to the Cuban context and is now being used as a tool for environmental management. The majority of Zones under ICM (so-called ZBRMICs) can now be found in the SCE. Through the project, a wide variety of ICM measures were implemented, such as environmentally-friendly tourism and nature tourism, reforestation, protection of fisheries resources, sustainable agricultural management, and controlled livestock husbandry, among others. ICM Boards were set up for each of the ZBRMICs as a system of governance to oversee implementation of the ICM Programs. A legal proposal for the establishment of an Advisory Board on ICM for the entire country was also developed through the project but is pending formal approval. In addition, the project had a key role in promoting the development of environmental plans and their approval so that environmental considerations are taken into consideration in land use planning. Such plans were developed in nine

municipalities.

142. Valuable lessons were learned on integrating conservation with productive sectors, such as the validity of developing policy instruments to support adoption of sustainable practices, the importance of widely disseminating pilot experiences to promote upscaling, and the need for long-term engagement with productive sectors to ensure lasting impact. The project successfully led to greater levels of coordination between CITMA and the productive sectors of tourism, fisheries and agriculture, thus strengthening environmental management. The detailed information on achievements related to each sector are described in the body of this report, but to summarize, valuable tools were produced such as best practice manuals, and policy instruments were proposed, such as a national standard on the sustainable management of buffalo in coastal ecosystems and construction standards for roads in sensitive ecosystems (cays). Extensive training and research increased the adoption of sustainable practices in the three key sectors. It should also be noted that besides these sectors, the oil industry and the transportation sector also benefitted from the project through the establishment of local ICM authorities and ICM programs and through the development of a draft norm on the construction of roadways in sensitive ecosystems.

143. Pilot projects were established to put in place technological innovations and to provide communities with tangible socio-economic benefits by engaging in sustainable practices. Diverse nature tourism products were developed and promoted in associated with protected areas. Sponge cultivation, oyster cultivation and high-seas fisheries pilot projects were established, with some replication already occurring due to the positive socio-economic and environmental impacts. Sustainable and diversified agricultural production models were tested and native species were introduced in reforestation for conservation and in plantations. Buffalo management was also strengthened to reduce environmental impacts on coastal ecosystem and maximize socio-economic benefits.

144. Finally, the project carried out research on the costs and benefits of different sustainable production practices. Such economic valuations were novel for Cuba and pave the way for future work on payments for environmental services. A proposal was developed for the Ministry of Tourism that would involve charges to tour operators to be reinvested in biodiversity conservation in productive sectors. This proposal still requires substantial follow-up in the future as this could represent an important financial mechanism for sustainability. Other elements of financial sustainability were promoted by the project such as increased sectorial investments in biodiversity mainstreaming. In terms of the institutional and governance framework, socio-political, and environmental issues, these are not considered to pose any substantial risks to sustainability.

145. The next sections of the report describes the many best practices employed by the project, which are of relevance to future GEF projects to enhance effectiveness, efficiency and impact. Recommendations arising from this evaluation are then provided with regard to project design, project execution and further activities to carry out to build on project achievements.

## 5.11 Best practices

- ▶ *High level of training and participation of local governments in project activities, such as Capacity Building Centres and ICM Programs*

The project worked closely and maintained regular communication with municipal governments for project activities related to all of the project Outcomes. The municipal government representatives and directors that were interviewed during the evaluation were highly supportive of what the project was able

to accomplish, including the development and implementation of Integrated Coastal Management Programs, the establishment of Capacity Building Centres as well as increased awareness on ICM and the values of the Sabana Camagüey ecosystem. In addition, the results of the pilots projects, such as on nature tourism, were highly valued by local governments due to their significant social and economic impacts on the communities. The ongoing interaction with municipal governments and channeling of information to them served to enhance local ownership and will strengthen sustainability, particularly given that follow up on the implementation of ICM Programs is their responsibility. In addition, this approach is consistent with the Cuban government's policy shift toward greater decentralization.

▶ *Extensive coordination with a large number of key stakeholders*

As has been the experience with other UNDP/GEF projects in Cuba, this project facilitated a substantial amount of coordination and collaboration among different stakeholders, including national, provincial and municipal governments, productive sectors, scientific institutes and teaching staff. This contributes to significantly greater project impact. The coordination achieved with different entities of productive sectors should be highlighted as this is a complex undertaking. Many research centres and academic institutions were also involved in the project, such as the Institute of Oceanology (IDO), Institute of Systematic Ecology (IES), CIEC (Coastal Ecosystem Research Centre), the Institute of Tropical Geography and others. Through the project, they increased their level of cooperation, including by carrying out joint expeditions, as well as their ties with the productive sectors.

▶ *Excellent communication among the national, provincial and municipal levels of coordination*

There was regular communication between the national project coordinators and the designated project coordinators in each of the five provinces of the project, based on the results of the interviews carried out during the Final Evaluation. This included regular e-mail communication, phone calls and visits by the PMU to the provinces. Every three months, the provincial coordinators provided written updates to the national PMU on activities in each province, including those of the Capacity Building Centres and the Integrated Coastal Management Boards.

▶ *Pilot projects addressed productive sector interests as well as Ministerial objectives and helped address community problems*

Stakeholders interviewed indicated that the pilot projects responded to specific sectoral and Ministerial interests and provided tangible benefits to stakeholders. This contributed to high levels of uptake and replication. For example, within the fishing sector, the need to reduce pressures on the traditional coastal fisheries was recognized and the three alternatives promoted were all feasible alternatives that captured the interests of stakeholders. The buffalo pilot projects were another example, as these helped producers address the problem of wild buffalo populations and low productivity.

▶ *Emphasis on education and environmental training at all levels, including the community level*

The project supported a very large number of workshops with representatives of key productive sectors, such as fishermen, fishing inspectors, agricultural workers, tourism managers and workers, as well as with institutional actors. At the community level, primary school children were educated on the values of the Sabana Camagüey ecosystem through partnerships with Circles of Interest<sup>12</sup>. The project even led to the establishment of an Integrated Coastal Management day in the municipality of Martí, province of Matanzas. The strong emphasis on training, education and awareness raising led to a significantly higher

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<sup>12</sup> These *círculos de interés* are a coordinated set of community-based after-school activities dedicated to increasing exposure to science and to scientific careers among K-12 students in Cuba.

level of awareness within the communities on the natural values of the Sabana Camagüey ecosystem and on sustainable productive activities. In some cases, this was measured using 'before and after' surveys.

- ▶ *South-South cooperation for exchanges of information and experiences and to take advantage of regional expertise*

On several occasions during project implementation, there were opportunities for exchange and information dissemination with experts from other countries of the region. For example, five representatives of the Capacity Building Centres participated in a conference in Uruguay to share their experiences. In addition, regional expertise was utilized in order to hire international consultants for the project when necessary.

- ▶ *Synergy with other projects to maximize efficiencies*

The PMU coordinated various project actions with other projects to reduce costs and to facilitate stakeholder interaction. For example, the itinerant training of tour operators was carried out together with the UNDP/GEF Southern Archipelagos project to enable them to see the different nature products on offer in person and to learn of their environmental values. Cooperation took place with the UNDP/GEF Invasive Alien Species (IAS) project in terms of management of buffalo and identification of IAS in the SCE. Synergies were also achieved with the UNDP/GEF Small Grants Program, which resulted in its support for the replication of one of the pilot projects.

- ▶ *Development of regulatory norms and best practice manuals based on project results in order to increase sustainability of project impact*

The project led to the development of two draft governmental norms awaiting formal approval as well as best practice manuals related to biodiversity mainstreaming in productive sectors. Examples include the draft norm on sustainable management of buffalo, draft norm on road construction in sensitive ecosystems and the best practice manual for the hotel industry. Such tools contribute substantially to project sustainability.

- ▶ *Incorporation of ICM in the curricula of educational/ technical training centres*

The visit to the technical university in Matanzas revealed that the topic of ICM had been incorporated in existing master's and doctoral training programs. In addition, the creation of the Sustainable Tourism Development Centre within FORMAT (the country's main tourism training institute) represents a key achievement that is strengthening the emphasis on sustainable tourism in all the courses taught.

- ▶ *ICM Programs were developed in a participatory manner and the associated ICM Boards incorporate all key stakeholders*

The participatory process employed to develop the ICM Programs increased ownership and levels of participation in relevant activities among locals. In addition, the local ICM Boards that were established to ensure implementation of the Programs include all key stakeholders and are chaired by the municipal governments.

- ▶ *Pilot projects were designed during project preparation phase*

While this should be standard design practice, it is not always the case that the pilot projects are fully designed and agreed upon during the project preparation phase. In this project, they were and this enabled

their implementation to begin more quickly and facilitated their replication, despite the fact that some modifications needed to be made during implementation.

▶ *Productive sectors managed activities to integrate biodiversity conservation directly*

Sectoral coordinators were designated for each of Outcomes 2-4 to take responsibility for the project outputs and achievement of objectives. FORMATUR, MINAL, AZCUBA and MINAGRI carried out planning and supervision of activities. The institutions also requested project funds from the national Project Director in line with the Annual Operational Plans that they developed jointly with relevant stakeholders. This increased ownership of project results among key sectors that affect biodiversity.

▶ *Continuity of UNDP/GEF support for the Sabana Camagüey ecosystem over three phases increased impact*

The Cuban government perceived the intervention as a three-phase process from the outset and was able to obtain support from GEF for three consecutive projects. As a result of this support, stakeholders indicated that greater impact could be achieved. Each project built on the achievements of the former project in a logical manner but went a step further. As an example, actions carried out during Phase 3 of the project built on the land use planning carried out in Phase 1 of the project, which identified ecologically sensitive areas with high biodiversity value, as well as on the Strategic Plan that was developed. Capacity building, policy changes, pilot projects and other activities were carried out during a period of over 20 years and the project is considered to have laid the basis for all subsequent GEF projects in Cuba. The fact that this third project had an implementation period of six years (which was later extended to seven) also contributed to the continuity of the intervention.

## **Recommendations to build on lessons learned and to guide future actions**

### **Recommendations related to project design**

➤ *Carefully select environmental impact indicators to ensure that they are realistic and that changes can be observed in time span of project*

Some of the environmental impact indicators selected proved to be problematic because short-term changes are not typically evident and because recovery times for these ecosystems are long (such as for seagrass beds). It is therefore important to carefully analyze the indicators to be included in any project's Strategic Results Framework and ensure that they are not dependent on assumptions outside of the control of the project (for example, elimination of a particular aggressive fishing technique by a certain date).

➤ *Clearly explain the methods used to establish the baseline values for all indicators in the ProDoc*  
With this project, in the case of the baseline measurements of contaminant loads, the specific climatological conditions under which the values were obtained were not sufficiently explained in the ProDoc. As a result, when subsequent measurements were taken during project implementation, the conditions were not necessarily the same such that reliable data comparisons could not be made to measure changes over time. For this reason, additional detail on the calculation of baselines should be included in Project Documents.

➤ *Dedicate sufficient resources in M&E Plan budget to monitor ecological indicators, including at project end*

There were unforeseen increases during project implementation in the cost of renting vessels for coastal/marine environmental monitoring, which increased the cost of planned expeditions. In order to avoid this

problem in future projects, a cushion of additional funds needs to be included in the M&E budget, to ensure that the full final monitoring of environmental impact can be undertaken, in line with UNDP/GEF project requirements.

➤ *Negotiate agreements during PPG phase for the use of vessels in coastal/marine monitoring*

One of the issues experienced when it came time to monitor coastal/marine impact indicators was the difficulty accessing the required vessels. Tourism boats were often unavailable as were boats belonging to other institutions and this made monitoring more difficult and also affected the periodicity and timing of monitoring. For this reason, to the extent possible, agreements should be negotiated during the PPG phase for the use of specific vessels at specific times for project monitoring. The difficulty experienced in some cases in renting vessels is another issue that the project grappled with, but one for which there are no easy solutions.

### **Recommendations to guide project execution**

➤ *Report on indicators with quantitative data if the baselines do so and employ the same methods of measurement to facilitate comparison*

This is critical to enable the level of progress against the baseline to be assessed. This was not always done with this project. For example, the data reported on mangroves in the years when the ecosystem was assessed did not specifically report a figure for total area of mangrove as per the baseline. For the information on sectorial investments, the baseline was reported as a cumulative total, whereas each PIR reported on the annual total; in the case of this indicator, both the annual and the cumulative totals should have been reported so that the project impact against the baseline could have been readily determined. It would also be useful where feasible to indicate whether the values reported (for example, on size of fish) are statistically significant compared to the baseline and on the level of significance employed.

➤ *Measure all indicators at project closure to determine final project impact*

It is recommended that all indicators be measured at project end, *even if* changes are not expected or the target is not expected to be met. If human or financial resources are limited, end-of-project monitoring is even more important than monitoring the indicators at midpoint, as it enables the final project impact to be determined.

➤ *Obtain the commitment of relevant institutions to track both co-financing and leveraged resources*

In the case of this project, the national-level project coordinators had trouble obtaining reliable information on leveraged resources from institutions and so were not able to determine the final amount of leveraged resources. At project outset, a commitment from relevant institutions to track these figures should be sought.

➤ *Ensure that all necessary materials for productive technological innovations are purchased*

For a few of the plant nurseries, MINAGRI purchased the planting trays with built-in cells (*tubetes*) without the associated irrigation system or tables, with the result that these trays are not currently being used. It is important that purchase orders be prepared carefully for any new technology to ensure their full utility.

➤ *Carry out final workshop before final evaluation*

In order for the feedback from stakeholders to inform the final project evaluations, it is recommended that the concluding workshop be carried out beforehand. This was not done in this case because of the desire to ensure that the final evaluation was carried out within the established time frames.

### **Recommendations to guide future projects**

#### **Recommendations for financial sustainability:**

- *Continue to develop financial mechanisms to support the implementation of sustainable productive activities in key sectors that affect biodiversity*

Through the Sabana Camagüey project, economic valuation studies were carried out for various sustainable productive activities. In addition, a proposal was developed for tour operators that would include a fee to be reinvested in protected areas. This proposal is still being discussed with the Ministry of Tourism. The issue of payments for environmental services and reinvestment of a portion of incomes from sectors in conservation activities (and in protected areas management) is a novel one for Cuba and one that still requires substantial work and follow-up for it to be consolidated into concrete financial mechanisms. The further development of incentives needs to be prioritized as this issue is absolutely vital for the financial sustainability of sustainable production in the tourism, fisheries and agricultural sectors.

- *Promote institutional coordination at the central level to achieve an integrated vision on ICM and secure agreement on relevant financial mechanisms*

This includes institutions such as Cuba's Central Bank, MINAG, CITMA, and the Ministry of Finance and Prices. This will be key to effective inter-institutional collaboration and to the adoption of policies to increase the financial sustainability of sustainable productive practices.

#### **Recommendations to maximize impacts of pilot sustainable productive sector activities and promote further replication/upscaling**

- *Publish succinct pamphlets on the pilot projects to promote replication*

In partnership with different institutes, the project coordination unit developed a number of useful publications to share findings, data and lessons learned, including about the pilot projects. Many of these are books or longer documents. In order to promote further replication of the pilot projects across the country, it would be useful to prepare simple pamphlets on each pilot project experience, summarizing the main elements, materials needed, results of economic evaluation studies and contact information to find out more. This could be a relatively cost-efficient way of sharing the pilot projects experiences and achievements in the post- project context in which there may be less opportunities to meet in person. Each productive sector could then disseminate the pamphlets to relevant stakeholders.

- *It is recommended that CNAP follow-up on the nature tourism products developed with the project through the National Commission on Sustainable Tourism to ensure that there is sufficient support for their management and promotion*

This is particularly important for the tourism products that have not yet been completely established, those for which management problems have arisen, or where further promotion is required to increase visitation levels. For example, with Rio Máximo, the National Enterprise for the Protection of Flora and Fauna has not yet provided co-financing to complete the construction of facilities for the tourism product

developed with the project and illegal fishing has contributed to a significant drop in flamingo nesting at the site. Such issues could be raised by CNAP at this National Commission to secure support in their resolution.

➤ *Continue promotion of nature tourism products*

The project supported the development, and in many cases, implementation of attractive nature tourism products. As a result, new nature products entered the market and participation in nature activities has increased. However, there still remains much potential to further promote these products and to promote many other nature products across the country. The nature tourism industry in Cuba is still in its nascent stages, while the traditional sun and sand model remains the mainstay.

➤ *Translate nature tourism material into English, including at Visitor Centres*

Due to budgetary restrictions, the Visitor Centre posters that were developed with project support were only in Spanish. Given the large numbers of tourists visiting Cuba who speak English and the expected increases in the future, it is important to ensure that all such promotional and educational material be bilingual and to verify the quality of the translations. Future pilot projects to promote nature tourism should therefore include sufficient budget for translations in order to attract international tourists.

➤ *Ensure that the relevant pilot project experiences under the direction of AZCUBA are shared with MINAG*

When project implementation began, all the land formerly under sugar cane cultivation was the responsibility of AZUBA but in 2009, over half of these lands were transferred to MINAG (Ministry of Agriculture). As such, three of the four pilot projects were on MINAG lands. Since the pilot projects were already underway, it was decided that the coordinator of Outcome 4 from AZCUBA would continue to be responsible for the implementation of the sustainable agriculture and buffalo components. Effective coordination between the two institutes was achieved. Nevertheless, it is recommended that the experience gained by AZUBA be fully shared with MINAG to promote further replication of the sustainable production models, such as sustainable buffalo management (based on the requirements of the national standard, which is in the process of formal approval). In terms of sustainable practices with small livestock, this is currently being promoted only on AZCUBA lands, however, should this policy change in the future, it would be useful for AZCUBA's experience to be shared with MINAG for further upscaling (once the technological package is fully validated).

To maximize environmental impact:

➤ *Follow-up with IPF and tourism developers to ensure that BD considerations are incorporated in the construction and operation of new tourism developments, including in the cays of the province of Camagüey*

Since last year (2014), new pressures have surfaced in terms of proposed large hotel developments in the cays of the province of Camagüey. These ongoing developments will need to be monitored carefully to promote consistency with the environmental land use planning for these areas and adherence to the best practices manual for hotels. Note that such pressures could also arise in other provinces.

➤ *Develop biological corridors to consolidate BD conservation in the landscape, including protected and productive areas*

With the recent introduction of a government policy to distribute lands to individual Cubans for agricultural production, the project recognized that pressures on environmental resources and BD could increase. As a result, biological corridors for each province in the SCE were proposed to provide linkages between protected areas, forests, and areas under sustainable production. It is recommended that these corridors be consolidated and formally approved to build on the initial steps taken by the project.

- *Follow up on system of environmental indicators for productive sectors and on sustainable tourism indicators to ensure their formal approval*

In order to ensure that they are used to monitor the integration of environmental considerations in productive sectors, the proposed environmental indicators and sustainable tourism indicators require final approval and formal adoption. For the environmental indicators, this approval should come from CITMA as part the national system of environmental indicators. This will enable continued monitoring over time of the extent of mainstreaming of BD in productive sectors.

- *Promote use of native species in reforestation*

The project supported the inclusion of native species in nurseries in various locations and the purchase of trays with built-in cells. Exotic species are also grown in these nurseries and used in forestry activities in order to meet energy needs with fast-growing species. Some of these exotic species are actually invasive alien species such as Casuarina (*Casuarina equisetifolia*) and Algarroba de la India (*Albizia procera*), and there is therefore somewhat of a disconnect between the Invasive Alien Species Strategy developed through another UNDP/GEF project currently under implementation in Cuba and the country's forestry policies. It is recommended that MINAG gain further experience on different native species and ensure that tree nurseries provide the appropriate conditions for their growth, with a view to further increasing the use of native tree species in forestry and in reforestation for conservation purposes.

- *Continue to provide training and environmental education in the long-term*

Spanning 20 years over the three phases, the interventions in the SCE had the opportunity to have a significant impact on levels of awareness of community members, stakeholders, governments and other stakeholders of the BD values of the Sabana Camagüey ecosystem and the need to implement sustainable productive practices. Relevant stakeholders will need to continue to provide opportunities for training and environmental education after the project in order to maintain the progress achieved and to continue to promote sustainable practices in the coastal and marine areas of the ecosystem.

#### Recommendations for further information dissemination and knowledge management:

- *Increase accessibility of the information in the repository*

Many of the project publications and outputs have been uploaded on a specific Sabana Camagüey project website. In addition, the Institute of Tropical Geography, a project partner, developed an information repository with all the project documents, which is part of a larger Environmental Information System the creation of which was supported by the project. It is recommended that the Institute enter additional metadata to facilitate access to the information repository (using search engines) and make the link between the project website and information repository more evident. In addition, linkages to the websites of those provinces that created their own local project website or included project information on their intranet should be established (such as Matanzas and Villa Clara).

- *Earmark funds to continue to print out key project outputs and disseminate project results and experiences within Cuba and internationally*

Given the significant results achieved in the Sabana Camagüey ecosystem over a period of 20 years and the valuable experience gained through this project on ICM and on working with productive sectors, further dissemination of project results within Cuba and to other countries of the region would be very useful. The planned final publication should be widely shared and uploaded to the internet-based information repository for access by other countries. In addition, it is important that CITMA and key sectors identify funds for further printing of key project products, such as the manual on best practices for the hotel industry and the manual on ecological gardening.

- *UNDP Cuba to ensure that lessons learned from this BD-2 project and key documents that systematize the project experience are shared within the UNDP system and with GEF*

To increase the visibility of the project's impacts within the UNDP and GEF systems, and to share the valuable lessons learned from working on biodiversity mainstreaming with productive sectors, it is recommended that the UNDP Cuba widely share available materials and promote the production of succinct documents that summarize the experience.

## Annex 1: List of Stakeholders Interviewed and/or Present in Final Evaluation Meetings

PARTICIPANT	Institution/ Organization
Mercedes Arellano Acosta	Director of SCE Project; AMA-CITMA
Edelmira Castro Blanco	GEAM, Coordinator of forestry activities of project
Andrés Ramírez Baffi	Coordinator of Outcome 4 of Project, AZCUBA
Servando Valle Valle	Coordinator of Outcome 3, CIP-MINAL
Leda Menéndez Carreras	Terrestrial biodiversity advisor of SCE project, CENBIO-IES –CITMA
Gricel Acosta Acosta	Program Official, Focal Point for Environment and Energy, UNDP-Cuba
Alain Muñoz Caravaca	Monitoring, Evaluation and Knowledge Management Official, Environment and Energy, UNDP-Cuba
Natalia Polanco Domínguez	General Administrator, SCE Project; AMA-CITMA
Pedro Alcolado Menéndez	Coastal marine biodiversity advisor of Sabana Camagüey project; AMA-CITMA
Pedro J. Ruiz Hernandez	National Focal Point of GEF; CITMA
Gisela Alonso Domínguez	President of AMA
Libertad Roda Fernandez	Coastal marine biodiversity activity coordinator, Institute of Oceanology -AMA
Cayetano Casado	Program analyst, Environment and Energy, UNDP-Cuba
Nelvis Gómez Campos	Ecologist, Delegation of CITMA in Matanzas
Angel Alfonso Martínez	Provincial Coordinator of Project in Matanzas province
Leyda Finalé de la Cruz	Dean, Fac. Technical Sciences U. de Matanzas
Ramón Quiza Sardiñas	Deputy Dean F.C.T. U. De Matanzas
Juan Alfredo Cabrera	University of Matanzas
María del Pilar Almeida	University of Matanzas
<b>Martí municipality, Matanzas province</b>	

Lenas Sánchez Dual	CITMA - Martí
Marixx Herz Valdés	Vicepresident CAM-Martí
Ramiro Ruiz Ruiz	President of CAM -Martí
Mercedes Falcon Perdomo	Secretary CAM- MARTí
Hernandez M.	1ª Vicepresident CAM-Martí
<b>Cayo Santa María, Villa Clara province</b>	
Julio Santarén	Director CESAM -CITMA, Villa Clara province
Eduardo Veiga Jiménez	Coordinator of Outcome 2 of project, FORMATUR, MINTUR
Edelkis Rodriguez Mova	Provincial Project Coordinator, Villa Clara province, CESAM/ CITMA
Dorqis Sardrey Herrera	Caguanes National Park, Sancti Spíritus province
Armando Falcón Méndez	Caguanes National Park
Norgis V. Hernandez Lopez	Caguanes National Park
Carlos M. Diaz	DME Planning P. Popular
Osmani León Pll....	UEB Bufalina Nela
Dulce María de la Cruz	UEB Bufalina Nela
José A. Rodriguez Gayo	CITMA ....
<b>Isabela de Sagua, Villa Clara province</b>	
Orlando Gonzalez Hernandez	Fisheries Operations (Fishery Enterprises, Caibarién, Villa Clara province)
Fidel Morales N.....	Council P. Isabela
Edallis Rodriguez Moyo	Coordinator PSC
Ketiusca Fernández	CITMA Sagua
María del Carmen Velasco Gómez	Delegate of Minister of CITMA in Villa Clara
Grace Casas Martínez	CBC Board/ ICM, Sagua la Grande municipality, CESAM/ CITMA
<b>Monte Lucas</b>	
Ehalu Morales	UBPC Monte Lucas
Leticia Salas Castellanos	CESAM, CITMA
Amaury Casa Delgado	UBPC Monte
Marilen Dávila Santos	UBPC Monte Lucas
Eliodoro García Mederos	UBPC Monte Lucas

Miguel A. López	UBPC Monte Lucas
<b>Finca Forestal Bonilla</b>	
Jedrais A. Morciego Adan	Farm
Marcia Mejía Romero	Worker on Farm
Yohana Morciego Adan	Worker on Farm
Yanana Collazo Meía	Worker on Farm
René Gonzalez Verdecia	Worker on farm
Ernesto Maceo Banga	Worker on farm
Luis Adai Mejía	Worker on farm
<b>Morón</b>	
Yareysi Brito Rodríguez	CBC Board/ ICM CITMA Ciro Redondo municipality
Eusebio Rosales Ordoñez	Provincial Forestry
Meide... Baul Ibañez	Morón Forestry
Juan Antonio Gómez Díaz	CBC Board/ICM CITMA Primero de Enero municipality
Sady Pantoja Aguila	CAM Morón
Raymé Jiménez Onosa	Municipal University Centre Morón
Yuleidys Martinez Abad	CBC Morón
Zulina Diaz Montes	CBC Morón
Ana Maezdes Ceré	CBC Bolivia
Luis A. Uldes Clz	CIBA
Hiliaysis Tapia Argüelles	CIBA
<b>Minas municipality, Camaguey province</b>	
Bárbara Espert Castellanos	Municipal University Centre
Miguel Enrique Avila Gálvez	Municipal Education Department
Lourdes Cristina Comalbo	Municipal University Centre
Osmany Geraldo Serrano	Municipal University Centre
Carmen Membrides Cabello	CBC Board/ ICM, Minas municipality, CITMA, Camaguey province
Andrea Armas Rodriguez	Provincial delegate of CITMA-Camaguey province
Dafent Sanchez de Cesp	Esp. Flora y Fauna
Adelaide Jiménez Castellano	SEF (State Forestry Service), Minas

	municipality
Yusimíe Florat González	Vicepresident of CAM Poder Popular Minas
Eds... Romero Cardoso	Director of Forestry Minas
Darge Blanco ...	Secretary of CAM Minas
Yalixi Machado Matos	Silviculture Unit Minas
Adalaberto Marrero Hernández	Principal Specialist on Silviculture, Provincial Enterprise, Camagüey
Nereida Junco Garzón.	Provincial project coordinator, Camaguey province
Vivero Sebastopol	Minas
Yaandré Velazco Luna	Silvicultural Unit Minas
Teodoro Días García	Silvicultural Unit
Iais Días Días	Silvicultural Unit
Antonio Matos Castillo	Silvicultural Unit Minas
Masdanie Velazco Fernández	Silvicultural Unit Minas
Elsa Adan Quevedo	Silvicultural Unit Minas
Tomas Gonzales Colón	Silvicultural Unit Minas
Julio Nieves Nieves Napolez	Silvicultural Unit Minas
María Pérez Fontes	Silvicultural Unit Minas
Ilianni Pérez Padrón	Silvicultural Unit Minas
Leidiana Giraldo Gutiérrez	Silvicultural Unit Minas
Juana Rodríguez Hernández	Silvicultural Unit Minas
Mailen López Umpierre	Silvicultural Unit Minas
Rosa Jiménez Vidal	Silvicultural Unit Minas
<b>CCC/ICM Chambas, Ciego de Avila province</b>	
Yakelyn Quintero Martín	CBC Board/ ICM Municipality of Chambas
Zulima Díaz Montes	Specialist in Environmental Planning for SCE, CITMA (selected municipalities)
Yulia Bolaño Montero	Vicepresident
Julio V. Santana Cruz	CITMA
Raúl Gomez Fernandez	Provincial project coordinator, Ciego de Avila province
Angreil Pérez Buchillón	CITMA
Daymiesí Contreras García	Journalist, Local Radio Station

<b>AZCUBA</b>	
Vicente Evora Blanco	AZCUBA, Director of Livestock Rearing
Rafael S. Rivacoba	AZCUBA, Specialist in International Affairs
Luis Barrios Marianor	AZCUBA, Specialist
<b>CITMA - Environment Directorate</b>	
Teresa Dolores Cruz Sardinias	Environment Directorate, project advisor on legal affairs
Gloria Gómez País	Environment Directorate, project advisor on sustainable financial mechanisms
<b>Instituto Geografía Tropical</b>	
Francisco Cejas Rodriguez	IGT, specialist in charge of administration of SCE information repository
Mei Emi Rodriguez	IGT, specialist
Yoel Cuzaú Fajardo	IGT, designer of environmental information system for SCE
<b>MINTUR- FORMATUR</b>	
Cecilia Moleón Mejías	Deputy Director, International Collaboration,
Fernando Vázquez Castro	Deputy Director R&D
Luis Felipe Fernandez Sierra	Methodology R&D
<b>Fisheries Research Centre (CIP), MINAL</b>	
Rafael Tizol Correa	Director, CIP
Yadira Gonzalez Columbé	Specialist DRI-CITMA
José M. Guzman Menendez	Specialist on terrestrial biodiversity in SCE, IES
Carlos a Méndez García	International Relations Department -CITMA
<b>Rio Maximo Faunal Refuge</b>	
Loidy Vázquez Ramos	Director of FR

## **Annex 2: Interview Questions**

*Note that the consultants prepared specific questions that were tailored to each particular stakeholder based on this general list.*

### **Project Formulation**

- How relevant is the project and its objectives to the country's national priorities?
- Were the project's objectives and components clear, practicable and realistic within its time frame?
- To what extent did stakeholders participate in the project design process?
- Were the capacities of the executing institution and counterparts properly considered when the project was designed?
- Were lessons from other relevant projects properly incorporated in the project design?
- Were the partnership arrangements properly identified and roles and responsibilities negotiated prior to project approval?
- Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?
- Were the project assumptions and risks well articulated in the Project Document?

### **Project Results and Impact**

- Please comment on the level of achievement of each of the main indicators / targets set in the logical framework to date.
- What do you consider to be the project's main achievements?
- What were the project's main limitations?

### **Sustainability**

- Are there social or political risks that may threaten the sustainability of project outcomes?
- Is there sufficient stakeholder awareness and ownership in support of the project's long-term objectives?
- Are there financial risks that may jeopardize the sustainability of project outcomes? Has a mechanism been installed to ensure financial and economic sustainability once GEF assistance ends?
- Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits?
- Are requisite systems for accountability and transparency, and required technical know-how, in place?
- Are there ongoing activities that may pose an environmental threat to the sustainability of project outcomes?

### **Project Implementation**

- How effectively did the PMU manage the project?
- Please comment on the executing modality of this project.
- Can you comment on the performance of UNDP as Implementing Agency?
- Was there an appropriate focus on results by the implementing and executing agencies?
- Please comment on the quality of risk management

- Were managing parties responsive to significant implementation problems (if any)?
- Was the chosen executing agency for project execution suitable, given the project design?

### **Monitoring and evaluation**

- Please comment on the adequacy of the M&E plan and the logical framework.
- Were baseline conditions, methodology and roles and responsibilities well articulated at project start-up?
- Was the M&E Plan sufficiently budgeted and funded during project preparation and implementation?
- Were the indicators provided in the Project Document effectively used to measure progress and performance?
- Were progress and financial reporting requirements/ schedules complied with, including the timely delivery of well-developed monitoring reports (PIRs)?
- Were follow-up actions, and/or adaptive management, taken in response to monitoring reports (PIRs) and to the MTE?
- Were PIR self-evaluation ratings consistent with the MTE and TE findings? If not, were these discrepancies identified by the project steering committee and addressed?

### **Adaptive Management**

- Were there any changes in planned project outputs and activities? If so, did they have a significant impact on the expected project outcomes?
- Why were the changes brought on? (e.g., due to weaknesses in the initial project design or due to changes in the social, political and/or environmental circumstances in the project area)?
- Were the project's changes articulated in writing and then considered and approved by the project steering committee?

### **Stakeholders**

- Did the project involve the relevant stakeholders through information sharing and consultation and by seeking their participation in project design, implementation, and M&E?
- Did the project consult with and make use of the skills, experience, and knowledge of the appropriate government entities, non-governmental organizations, community groups, private sector entities, local governments, and academic institutions in the design, implementation, and evaluation of project activities?
- Were the perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process taken into account while taking decisions?

### **Country Ownership**

- Please comment on the level of national ownership of this project.
- Were the relevant representatives from government and civil society involved in project implementation, including as part of the project steering committee?
- Has the government enacted legislation and/or developed policies and regulations in line with the project's objectives?

### **Project Finance**

- Is there sufficient clarity in the reported co-financing to substantiate in-kind and cash co-financing from all listed sources?

- Were there significant differences in the level of expected and actual co-financing and if so, what were the reasons for these differences?
- Were externally funded project components well integrated into the GEF supported components?
- Did the extent of materialization of co-financing have an effect on project outcomes and/or sustainability?
- Were there additional leveraged resources committed during project implementation?

### **Mainstreaming**

- Did the project have any positive or negative effects of the project on local populations and on livelihoods?
- Have gender issues been taken into account in project design and implementation? If so, how and to what extent?
- Is there evidence that the project outcomes have contributed to better preparations to cope with natural disasters?
- Do the project objectives conform to agreed priorities in the UNDP country programme document (CPD) country programme action plan (CPAP), and UN Development Assistance framework (UNDAF)?

### **Lessons Learned and Recommendations**

- Please comment on any lessons learned as a result of this project.
- Please comment on best practices employed.
- Please provide recommendations with regard to actions that should be carried out to improve project execution.

### **Annex 3- Documents consulted during evaluation**

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CITMA and Project Management Unit. Consideraciones para la elaboración de un nuevo proyecto de Resolución sobre el Manejo Integrado Costero. Versión 21 de enero del 2015.

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Sánchez Trujillo, R., F., Carlos M. Delgado Castro, M.C Servando V. Valle Gómez. 2013. Manual de Artes de Pesca.

UNDP and Government of Cuba. 2005. Project Document for "Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana Camaguëy Ecosystem" project.

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UNDP Evaluation Centre. 2012. Project Evaluations. Guidance for conducting terminal evaluations of UNDP supported, GEF financed projects.

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## Annex 4: Itinerary

### WORK ITINERARY FOR EVALUATORS

**SABANA CAMAGÜEY PROJECT**  
**WORK PROGRAM OF FINAL EVALUATION**  
 20 to 30 April

No.	Date, time <sup>13</sup>	Activity	Place	Participants
1	Monday 20	Arrival in airport of Havana	Airport	Project Coordinators
2	Tues 21, 09:00 – 10:15	Meeting with UNDP CO	UNDP Cuba Office/ Havana	UNDP CO staff/ Havana.
	10:30 – 12:00	Meeting with Project Management Unit and UNDP CO.	UNDP Cuba Office/ Havana	Project Director, Project General Administrator, scientific advisors for the project on biodiversity, coordinators of the agricultural, forestry and fisheries sectors, Representatives of AMA.
	13:00 -13:30	Administrative issues and lunch break		
	15: 30 – 16:30	Meeting with National Focal Point of GEF Cuba and with Directors of Environment Agency (Agencia de Medio Ambiente), CITMA, Cuba		Project Director, Project General Administrator,

<sup>13</sup> Note that some of the times were adjusted when meetings extended past the allotted time.

				scientific advisors for the project on biodiversity. <sup>14</sup>
	16:30 – 18:30	Discussions with Project team (Director, Administrator, scientific advisors on terrestrial and coastal biodiversity, sectorial coordinators for fishing, agriculture and forestry). Exchanges about the work and places to visit in the provinces. Questions from evaluators.	Project Office	In addition, the coordinators of the project in IDO and IES will participate.
3	Wednesday 22, 07:00	Departure for province of Matanzas, municipality of Martí		Project Director, Project General Administrator, Scientific Advisors on BD.
	10:30 – 12:30	<u>Province Matanzas</u> : Meeting with the Vice President of the municipal government, with the Provincial Project Coordinator and with specialists of the municipality of Martí. Assessment of the project work, impacts, and institutional, social, and financial sustainability; Role and work of CBC/ICM. Implementation of ICM in municipality. Expectations with regard to replication of experience (sponges) in the fishing sector. The forestry work in the Guamuta UBPC and its impact on the environmental context at the provincial scale, in terms of increasing ecological connectivity. Visit to the forestry nursery of the municipality of Martí.	CBC/ICM municipality of Martí	Ángel Alfonso, Daniel Martínez, ICM Head in municipality of Martí.
	18:00  Meeting at Visitor Centre at 22:00	<u>Province of Villa Clara</u> : Arrival at Santa María cay. Accommodation. Exchange with Provincial Project Coordinator, with the tourism project coordinator and with local authorities.  Information on the state of the RB Buenavista Visitor Centre.	Hotel cayo Santa María	Provincial Project Coordinator, tourism project coordinator and local authorities
4	Thursday 23 08:00 - 15:00	<u>Province of Villa Clara</u> : Visit to CBC/ICM Sagua La Grande. Work of the ICM Office in the resolution of problems and conflicts. Experience with oyster and sponge cultivation in the fisheries sector. Visit to the agricultural Basic Unit of Cooperative Production (UBPC) Montelucas.	CBC/MIC Sagua, UBPC Montelucas	Project coordinator for the province of Villa Clara, Board of CBC/ICM municipality, Project Board UBPC Montelucas.
	17:00	<u>Province of S. Spíritus</u> : Exchange with the Provincial Project Coordinator of the ICM Office and CBC/ ICM. Exchange on the experience with sustainable financing for the conservation of biodiversity in the animal husbandry sector (buffalo). Implementation of buffalo rearing with sustainable practices. Social impact of the project in the territory and development of nature tourism. Accommodation in Los lagos de Mayajigua.	Municipal ICM Office	Project coordinator for the province of S. Spiritus, Director of ICM Office Yaguajay, Director of Project and Economist of the Nela

<sup>14</sup> Note that all meetings with stakeholders also included a period of time when the evaluators asked questions directly without the presence of the Project Management Unit.

				UBPC.
5	Friday 24, 08:30 – 10:00	Visit to CBC/ ICM of municipality of Chambas. Exchanges regarding the project impact with the municipality.	CBC/ICM municipality	Board CBC/ICM municipality
	11:00 – 13:00	<u>Province of Ciego de Ávila</u> : Exchange with the Provincial Project Coordinator in the CBC/ ICM of the municipality of Morón. Presentation of the status of the model of environmental planning adopted by municipalities of the ESC of the province.	CBC/ICM Morón	Provincial Project Coordinator, Board of CBC/ ICM of municipalities of SC, specialist of environmental planning, CIBA and buffalos. Other participants of the territory.
	13:30 – 15:00	Visit to the Laguna La Redonda, municipality of Morón, showcasing of nature tourism experience. Lunch. Continuation of trip to the province of Camagüey.	La Redonda	Project coordinator of tourism sector
	18:00 – 20:00	<u>Province of Camagüey</u> . Arrival in the city of Camagüey. Meeting with the Provincial Project Coordinator. Accommodation.	Venue at the hotel.	Provincial Project Coordinator.
6	Saturday 25, 09:00 – 19:00	Visit to the CBC/ ICM of the municipality of Minas. Work of the CBC/ ICM. Impact of the project on the implementation of nature tourism in the Rio Máximo Faunal Refuge. Visit to the Sebastopol nursery. Dinner	CBC/ ICM venue	Provincial Project Coordinator, Board of CBC/ ICM, Forestry and tourism representative (Rio Máximo Faunal Refuge)
	19:00	Return trip to Havana, with overnight on the way in Los Lagos de Mayajigua, Yaguajay		
7	Sunday 26, 08:30	Return to Havana. Work of the Evaluation Team in the preparation of the presentation on initial findings.		
8	Monday 27 10:00- 13:00	Work of the Evaluation Team to prepare presentation on initial findings.		Evaluation team
	14:00-16:00	Interview with Director of agricultural and forestry sector		Project Director, sector coordinator
	16:00-18:30	Meeting with PMU to answer additional questions of lead evaluator		Project Director, General Administrator, scientific advisors for project on biodiversity
9	Tuesday 28, 10:00 am – 12:00	Meeting of Evaluation Team with Environment Directorate (DMA), CITMA: extent of integration of project results in the institutional framework	CITMA Headquarters, Havana	Director of Environment of CITMA and designated civil servants, Project Director,

				scientific advisors
	14:30 – 16:00	Visit to the Institute of Tropical Geography (centre for the capture, processing and storage of the information of the Sabana Camagüey project, information repository and dissemination)	Institute of Tropical Geography	General Director, Technological Deputy Director, administrator of SIAESC (Environmental Information System for the SCE)
	16:00 – 17: 30	Meeting with the General Management of the Tourism Ministry (FORMATUR), charged with participation of the sector in the project at the central level.	Headquarters of FORMATUR, MINTUR	General Director, Deputy Directors (2)
10	Wednesday 29, 09:00 -10:30	Meeting with national directors of the fishing sector	Centre of Fisheries Research, MINAL	Project Director
	11:00-13:30	Work of the evaluation team to prepare the presentation on the initial evaluation findings.		Evaluation team.
	14:00 – 17:00	Meeting with Program Official for Environment and Energy, UNDP, other UNDP staff members and project coordinators to present initial findings of evaluation report.		GEF Focal Point, Environment Agency representatives, members of project team and others.
	Thursday 30	Return of consultants to their respective countries.		

## Annex 5: Terms of Reference

### SABANA CAMAGUEY PROJECT TERMS OF REFERENCE FOR THE FINAL EVALUATION

<b>Country:</b>	CUBA
<b>ATLAS Award ID:</b>	0043827
<b>PIMS Number:</b>	3254
<b>GEF Focal Area:</b>	Biodiversity
<b>GEF Strategic Objective:</b>	OP2
<b>GEF Budget (USD):</b>	4,119,448
<b>Co-Financing Budget (USD):</b>	22,032,000
<b>Project Document Signature date:</b>	March 2008
<b>Date of first disbursement:</b>	June 2008
<b>Original Planned Closing Date:</b>	March 2014
<b>Executing Agency:</b>	CITMA/ AMA
<b>Date of Project Closure</b>	September 2015

#### 1. INTRODUCTION

##### UNDP/GEF Monitoring and Evaluation (M&E) Policy

The Monitoring and Evaluation (M&E) policy for UNDP/GEF project has four objectives:

- to monitor and evaluate results and impacts;
- to provide a basis for decision making and any necessary amendments and improvements;
- to promote accountability for resource use;
- to document, provide feedback on, and disseminate lessons learned.

To ensure effective project M&E, a mix of appropriate tools is used continuously throughout the lifetime of the project, such as: periodic monitoring of indicators, mid-term evaluations, audit reports and final evaluations.

In accordance with UNDP/GEF M&E policies and procedures, all full size or medium projects funded by GEF should carry out a mid-term review in the third year and a final evaluation upon completion of the fifth year of the project.

These terms of reference pertain to the Final Evaluation of the Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana Camagüey Ecosystem project. For issues related to content and methodology of the evaluation, reference is made to the Guidelines for GEF projects (version for Evaluating Teams).

## **Brief Project Description**

*See Complete ToRs or ProDoc.*

### **1. ASPECTS RELATED TO NATIONAL POLICIES THAT HAVE AFFECTED PROJECT IMPLEMENTATION**

The model to modernize Cuba's economy, detailed in the Guidelines of the Economic and Social Policy of the Party and the Revolution, approved and entered into force in April 2011, puts in place measures with a view to the decentralization of many activities that were formally centralized only by the state.

Developments that have had a decisive impact on the implementation of the project include: the approval and implementation of self-employment; the operationalization of a Tax System and the associated payment of taxes by state entities and individuals; the gradual implementation of forms of local empowerment, such that municipalities now have autonomy in terms of economic management in areas that are not strategically important for the area or the country; the planned distribution of idle lands for agricultural exploitation to individuals interested in the establishment of cooperatives, some linked to the demonstration units of the project (such as UBPC Guamuta and UBPC Montelucas); as well as the generation of policies that include the staged development of nature tourism in the country.

These actions are directly linked to Outcome 1, Output 1.1, Integrated Coastal Management Authority (ICMA) and to Output 1.4, which is focused on the development of a Program of Sustainable Financing for biodiversity conservation and the proposals to make for the adoption of decisions at the relevant levels based on the results of the financial analyses carried out with the selected demonstrative productive units, in accordance with the project design and in relation to the three key sectors.

The impacts of the changes have also been felt in the execution of relevant activities under Outcome 2, Outputs 2.2 and 2.3 (development of nature tourism in two demonstration pilot sites and replication of the successful demonstrations of nature tourism strategies, respectively) and with Outcome 4, Output 4.4, focused on implementing demonstrations of biodiversity-friendly production on lands formerly dedicated to sugar cane.

In the case of Outcome 1, Output 1.1, local empowerment, which is of great interest to local stakeholders, there is a strong argument in favour of establishing an Advisory Board on ICM for SCE, to ensure sustainability supported by an ecosystem approach and the principles that govern it (without taking into consideration the ecosystem vision and its impact on the sustainability of the environmental services that they provide and that constitute, to a large extent, the economic basis of the territories).

In terms of Output 1.4, Activity 1.4.3, "development and implementation of specific mechanisms for the generation of sustainable funds", the structure of the project was designed so that this activity summarizes and is the theme of the economic valuations of the productive pilot projects, carried out by the three key sectors of the project. These are the first economic valuations carried out in Cuba associated with the conservation of biodiversity, in the context that this natural resource is used in productive activities being carried out by different economic sectors.

These impacts will be highlighted as part of the assessment of each of the aforementioned Outcomes, Outputs, and Activities of the project.

## **2. OBJECTIVES OF THE FINAL EVALUATION**

- Analysis and reporting on the level of adherence to the recommendations made in the MTE, in terms of corrective actions, those to reinforce project benefits, and those directed at extending accomplishments, with an emphasis on the former.
- Based on the latest PIR of June 2014 review the level of achievement of the project objective in terms of the indicators of the logical framework, with this achievement being expected between the last PIR (June 2014) and this FE.
- Carry out a comprehensive analysis to determine to what extent the fundamental premises that are the basis of project implementation have been achieved, in accordance with its design, in terms of:
  - strengthening of inter-institutional coordination, through the creation of systemic and institutional capacities in the territories of the five provinces and municipalities that they cover, led by the creation of an Integrated Coastal Management Authority (or Board or Body), at that level.
  - The development of sustainable financial mechanisms for the conservation of biodiversity and conservation linked to activities to manage tourism, fisheries, forestry and agriculture/ livestock management in the vicinity of the protected areas, with the productive activities of the larger landscape. The extent to which project actions have led to the introduction of the proposed mechanisms, within the scope of the adoption of institutional decisions.
  - General assessment of the added value of Phase 3 of the project (productive landscapes, sustainability of the effects of GEF's interventions), as part of a long strategy of intervention of the Government of Cuba in the Sabana Camagüey Ecosystem. Evaluate how this phase has contributed to the conservation of ecosystems of global importance in the Sabana Camagüey Ecosystem in the long term.
  - Achievement of the project Outcomes, Outputs, and Activities in terms of implementation and execution.
  - Identification of detailed recommendations for each expected project Outcome and its target, with proposals for corrective measures that should be recommended to the government, for future implementation, in order to consolidate the environmental, institutional, financial and social sustainability of the Outcomes and impacts of the project.
  - Capacity of the national counterpart to support the project in terms of mobilization of co-financing/ coordination. Levels of co-financing obtained to date.

## **3. SCOPE OF THE FINAL PROJECT EVALUATION**

The Final Evaluation should be based on the five main criteria, which are: relevance, effectiveness, efficiency, results, and sustainability. These criteria will be defined based on a series of questions that should cover the following aspects of the project:

- Detailed analysis of the achievement of the indicators of the Project Logical Framework, and their targets, throughout the project, and especially, what was achieved and reported on in the last PIR (June 2014) and to date, in terms of pending actions in the short term.
- Capacity of the project to mobilize funds, in terms of co-financing; creation of partnerships with NGOs (national and international) specialized and interested in the topics of the project; level of coordination with other national and external partners.
- Assessment of the activities oriented at the long-term sustainability of the actions carried out with the project.
- Detailed analysis of the stakeholders directly and indirectly involved in the project.
- Scope and level of support and coordination provided by the UNDP Country Office as the Implementing Agency for the project.
- Analysis of the risks and mitigation plan.
- The evaluation team should present an analysis of the level of fulfillment of the recommendations made by the Mid-Term Evaluation team, which were accepted, for each aspect analyzed and for each expected outcome, which will facilitate the preparation of an action plan by the Project Management Unit to address these recommendations.
- Means by which the project contributed to systemic changes in the key productive and environmental sectors of the country, in the SCE, and potentially the entire country.

In addition, the following specific aspects should be addressed, including:

- Contributions to theoretical approaches related to environmental management in coastal zones.
- ICM in the project area. Extent to which the ICM authorities have been institutionalized, from the local level to the ecosystem scale. Impact of the ICM Authorities on the conservation of biodiversity in their areas, on the productive sectors and on the ecosystem approach. Updating of the content and scope of the ICM Advisory Board for the SCE.
- Network of Capacity Building Centres for ICM. Growth during the time period of the project, compared to the planned total. Functioning. Relevance. Results. Impacts.
- Work with communities and creation of capacities to carry out ICM with key stakeholders.
- M&E system implemented by the project to evaluate the performance and results of ICM, from the local level. Ascertain degree of acceptance by the Environmental Authority for its implementation.
- Sustainability of ICM in the SCE, once the project intervention ends. Institutional and financial elements that ensure this.
- Assessment of the effectiveness of the activities carried out by the project in terms of increasing the sustainable performance of the tourism sector in the ecosystem: project contributions to increasing the key role that it should play in the institutional development of nature tourism. Indicators of sustainability of tourism. Level of validation achieved. Advances in the proposed mechanisms for the financial sustainability of the sector, in terms of the approaches that the project was to introduce.
- Level of success within the fishing sector in applying demonstrative sustainable fisheries practices and replication of sponge cultivation, and in the establishment and application of Fisheries Resolution 503 of 2012 on the banning of bottom trawlers in Cuba and the proposed Resolution of the sector to declare one area as a Special Use and Protection Zone (ZBREUP),

where based on the agreement adopted, fishing would be completely prohibited, or certain fishing would be accepted (lobster, sea cucumbers, sponges) that does not affect the marine habitat.

- Improvement in the systems for agricultural and forestry production, through the adoption of sustainable practices introduced by the project, in the lands formerly dedicated to the sugar cane industry and their institutional sustainability. Extent to which the management practices will have an impact on the conservation of biodiversity.
- Sustainable methods for the management of small and large livestock in the pilot agricultural areas. Upscaling to the ecosystem level.
- Management and use of waste from agricultural and livestock raising activities.
- Assessment of the productive alternatives for the sustainable management of natural resources put in place. Analysis of the productive systems; evaluation of the ecological functions.
- Contribution of the project in the analysis of sustainable financing approaches that were developed at the level of systems of production (agriculture, livestock raising, fishing and tourism activity) as productive sectors that make use of ecosystem goods and services. Impacts and contributions toward the adoption in the short term of national financial policies related to financing for the conservation of biodiversity.
- Role of the project in the promotion of biological corridors and creation of connectivity routes, by carrying out reforestation with native species. Advances achieved, expected results in terms of their impacts on future policies to be put in place for the forestry sector.
- Fulfilment of the forestry management plans with the use of native species, establishment of nurseries for this purpose.
- Extent to which the project took advantage of, supported, and disseminated the existing agricultural and livestock management experiences in the country, for their adoption on lands that were formerly dedicated to sugar cane production.

#### **4. EXPECTED EVALUATION DELIVERABLES**

It is expected that the project evaluation team will develop three products that are described in the Guide for GEF project evaluations (Annex 1) :

- An Inception Report, which will be developed and submitted prior to the visit of the consultants to Cuba;
- An oral presentation of the main findings of the evaluation to the UNDP Country Office (CO) and the Project Team (Management Unit ) before the conclusion of the visit, to allow for clarification and validation of key findings;
- Final Evaluation Report, which will be in line with the description in the Guide for Evaluations (Report Outline). The Final Evaluation Report must be submitted in Spanish and in English.

#### **5. METHODOLOGY OR APPROACH TO THE EVALUATION**

In so far as possible, The MTE report will be structured in accordance with the guidelines of the Guide for Evaluations (Annex 1). It is recommended that the evaluation team present its proposal for conducting the evaluation, which will be included in the Inception Report. The list of documents to be reviewed by the evaluation team is found in Annex 3.

#### **6. EVALUATION TEAM**

The Team of Evaluators will consist of two international and one national specialist, all with over 10 years of professional experience and postgraduate training related to the project. Their professional profiles will include a wide range of skills and knowledge, expertise in carrying out analyses and project evaluations and skills in technical aspects related to the conservation and sustainable use of biodiversity, as well as experience in social and economic development, and the linkages of these with public policies of the environmental sector. The evaluators should also have updated knowledge of the strategies and policies of the GEF.

Preference will be given to evaluators with experience working in Latin America and the Caribbean. In addition, the evaluators must have a good knowledge of Spanish and English as the working languages for this assignment.

The consultants in charge of the Final Evaluation will be subject to the ethical standards referred to in the Guide and must sign the Code of Conduct (Annex 4) once they accept the assignment.

One evaluator will serve as Team Leader and will be responsible for submitting the evaluation report. This Leader will coordinate with the rest of the team to define the methodology of the work and the timing of their inputs for the report and the final revisions.

**Table 1 - Profiles of the evaluators**

<b>First and last names/ country of origin</b>	<b>Responsibility within evaluation team</b>	<b>Experience</b>
Alexandra Fischer	Evaluation Team Leader	Extensive experience in the design and evaluation of UNDP/ GEF projects for the conservation of biodiversity, in particular marine/ coastal biodiversity. International consultant for UNDP for Latin America and the Caribbean. Formerly consultant for the Convention on Biological Diversity, IDRC and the National Association for the Conservation of Nature (ANCON), among others. Expert in evaluation of natural resources.
Manuel Roberto Gondim de Andrade, Brazil, based in Chile	Member	Fishing engineer. Doctorate of Economics in the Public Sector. National coordinator of the UNDP/GEF project on globally important biodiversity (Chilean coast). Consultant and coordinator of the project to support the Network of Aquaculture in the Americas. Consultant of CEPAL on economic aspects related to the Global Program of Action for the Protection of Marine Habitat of the activities carried out in the terrestrial areas and the agreement on high seas fishing for the inclusion of economic aspects related to the management of coastal and marine biodiversity. Evaluator of UNDP/GEF projects.
Aida Ramírez	National member of the evaluation team.	Will have the role of advising the others members of the evaluation team on issues related to the national context. In addition, as a result of her professional experience, will be able to contribute to the analysis carried out for Outcome 4. Master's in Biological Sciences, specializing in nutritional biochemistry. DrC. National veterinary biochemistry. Executive Secretary of Scientific/

		<p>technical problems/ programs on issues related to milk and beef production, pastures, feed, pork production, poultry, veterinary pharmaceuticals, biotechnology applied to animal health and reproduction. CECT and ACC, Havana, Cuba. 1975-1992.  Manager of National Programs of Science and Technological Innovation on issues related to protein production and animal feed using biotechnological means, sustainable biotechnologies, plant improvement and plant genetic resources.</p>
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Independently of the specific profiles of the consultants who are members of the evaluation team, the following general aspects should be evaluated:

- Level of achievement of the goal of the project and the specific objectives. Lessons learned (including lessons that can improve the design and implementation of other UNDP/GEF projects), as well as organizational and development learning.
- Executing capacity of the different levels of the project (municipal, provincial, key productive sectors), carefully assessing the demonstrated ability to carry out their specific responsibilities.
- How the different bodies interacted with each other, and how they maintained a clear definition of roles and responsibilities.

**7. IMPLEMENTATION ARRANGEMENTS**

The UNDP Country Office in conjunction with the Project Management Unit will be responsible for the coordination and logistical arrangements for the evaluation and will also provide support to the Evaluation Team (transportation, lodging, office space, communications, etc.). They will pay the per diems and contractual payments in a timely manner, as well as organize the site visits.

The evaluation team will meet with UNDP Cuba at the beginning and end of the mission. Teleconferences will be organized with the Regional Technical Advisor (RTA) in charge of the project in the UNDP Regional Service Centre in Panama. Other meetings may be arranged as deemed necessary by any of the parties.

**Payment details:**

The evaluators will be hired using project funds. The payment schedule is 50 % upon delivery of the first draft of the evaluation report to UNDP Cuba. The remaining 50% will be paid once the final report has been completed and approved by UNDP Cuba and UNDP/GEF-RSC (upon signature by UNDP Cuba and UNDP RCE of Annex 5) .. The quality of the final report will be evaluated by UNDP Cuba and UNDP/GEF-RSC. If the quality of the report does not meet the standards or requirements of UNDP/GEF, the evaluators will be asked to rewrite or revise the document (as often as necessary) before the final payment is made.

The hiring of the international evaluators will be funded by the budget provided by GEF for the project and the national evaluator will be part of Cuba's contribution to the project, apart from the expenses incurred from their participation in activities outside of their province of residence. In this respect, they will receive the same amount for per diems as the other members of the evaluation team.

**Timeline**

The evaluation will be carried out in the period between March and May 2015.

Upon signature of the contract, the documents listed in Annex 3 will be sent to the consultants. Based on the revision of the documents, the consultants will have two weeks to prepare and send the Inception Report to the UNDP Country Office. The UNDP Country Office and the Project Management Unit will review the Inception Report and will correspond with the Evaluating Team to refine the report based on the suggestions of both offices. The Inception Report should be finalized no more than 2 weeks after it is first submitted by the Evaluation Team (ET). After this, the Evaluation team will carry out a 10-day mission to Cuba which will include the following activities:

- Meeting with the UNDP Country Office and teleconference with UNDP Regional Technical Advisor;
- Meetings with key stakeholders in the country (decision makers of the Environmental Authority and key productive sectors involved in the project);
- Joint revision of all the material available with a focused attention on the Outcomes and Outputs of the project.
  - Observation and review of completed field activities (development of capacities, awareness raising/ education, sustainable use demonstration activities, demonstration of implemented tourism activities, community development, etc.)
  - Meetings with beneficiaries and key stakeholders, including representatives of local authorities, local environmental authorities, key stakeholders in the communities, etc.

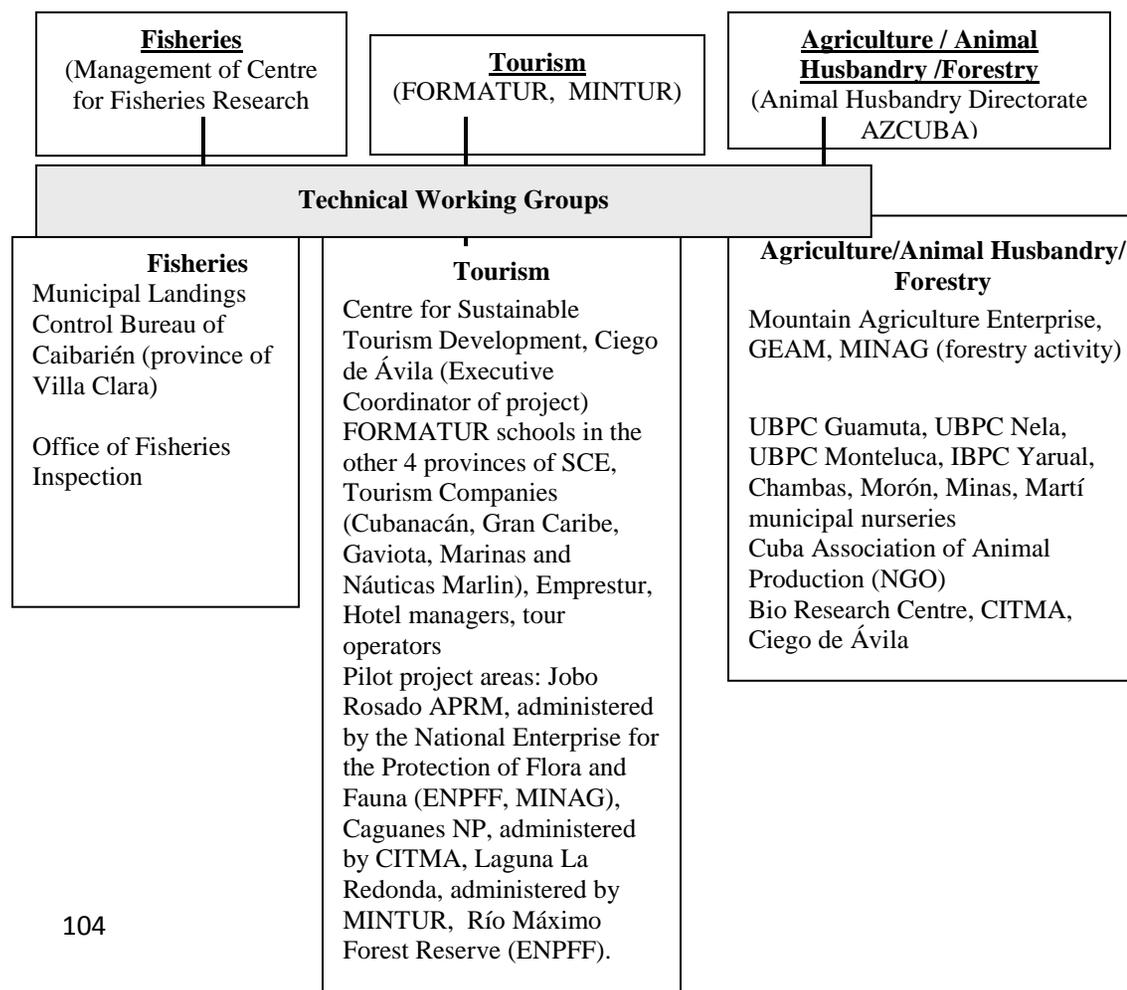
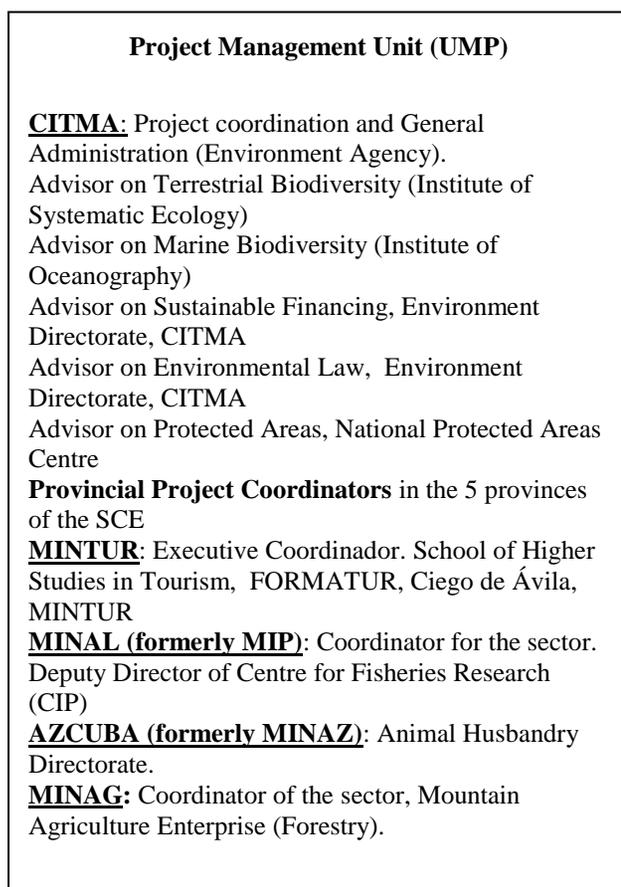
The first draft of the Evaluation Report will be submitted by the ET to the UNDP Cuba Country Office within three weeks of the end of the mission.

The UNDP Cuba Country Office together with the Project Management Unit will have two weeks to review the Evaluation Report and return it to the evaluators with comments.

The presentation of the Final Evaluation Report will occur no more than two weeks after the evaluators have received the comments from the UNDP Cuba Country Office.

The report will be considered finalized once the expectations for the evaluation have been met and the quality of the report meets the standards and requirements of UNDP/GEF. The UNDP Country Office and the UNDP Regional Office will sign the form in Annex 5 to confirm their acceptance of the final report.

## Annex 6: Project Management Unit



**Annex 7: Signed Evaluation Consultant Code of Conduct Agreement  
Forms (see separate files)**

