PROJECT EXECUTIVE SUMMARY
GEF COUNCIL SUBMISSION
FULL SIZED PROJECT

AGENCY'S PROJECT ID: PIMS 3254
GEFSEC PROJECT ID: 2633
COUNTRY: Cuba
PROJECT TITLE: Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana Camaguey Ecosystem
GEF AGENCY: UNDP
OTHER EXECUTING AGENCY: Ministry of Science, Technology and Environment (CITMA), supported by other line ministries
DURATION: FSP 5 years
GEF FOCAL AREA: Biodiversity
GEF OPERATIONAL PROGRAM: OP2; Coastal, Marine and Freshwater Ecosystems
GEF STRATEGIC PRIORITY: BD-2 Mainstreaming Biodiversity in Production Landscapes and Sectors
PIPELINE ENTRY DATE: 21ST DECEMBER 2004
ESTIMATED STARTING DATE: February 2006
IA FEE: $388,754.82

FINANCING PLAN (US$)	
GEF PROJECT/COMPONENT	
Project	$4,119,498
PDF A	
PDF B	200,000
PDF C	
Sub-Total GEF	4,319,498
PROJECT CO-FINANCING	
UNDP (Capacity 2015)	577,000
Government	22,032,000
NGOs	744,178
Bilateral	0
Sub-Total Co-financing:	23,353,178
Total Project Financing:	27,672,676
FINANCING FOR ASSOCIATED ACTIVITIES IF ANY: NA	
LEVERAGED RESOURCES IF ANY: NA	

CONTRIBUTION TO KEY INDICATORS OF THE BUSINESS PLAN:
Area of seascape within SCE benefiting directly from mainstreaming biodiversity management in the fisheries sector is 2,770 km^2, and area of landscape benefiting from agriculture, livestock and forestry sectors is 482 km^2. The area benefiting indirectly over the long term by changed productive sectors (tourism, fisheries and agriculture related): is 22,800 km^2 of landscape and 8,311 km^2 of seascape (GEF Tracking tool in Annex 15 of Prodoc gives details of the sector breakdown)

RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT:

Jorge Luis Fernandez Chamero Date*: August 31st , 2005*
Director of International Cooperation, Ministry of Science, Technology and Environment

Approves on behalf of the UNDP. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for work program inclusion.

Yannick Glemarec
Deputy Executive Coordinator

Y. Glemarec

Date: September 29, 2005

Helen Coles de Negret
Regional Technical Advisor-GEF/UNDP LAC RCU

Tel. and email: (507) 302-4508
helen.negret@undp.org

1) PROJECT SUMMARY

PROJECT RATIONALE, OBJECTIVE, OUTCOMES, AND OUTPUTS/ACTIVITIES

1. The project will be implemented in the Sabana-Camagüey Ecosystem (SCE), which occupies a strip of approximately 465 km along the central north zone of Cuba, including the northern watersheds of the provinces of Matanzas, Villa Clara, Sancti Spíritus, Ciego de Ávila, and Camagüey, an extensive marine archipelago, the adjacent shallow marine shelf, and the oceanic Exclusive Economic Zone. The SCE is a complex of terrestrial and marine ecosystems with strongly interconnected components. Actions in the mainland have significant influence on the ecological condition of inshore water bodies (e.g. lagoons), as well as coral reefs and other important habitat, while disturbances in natural hydrographic cycles have produced impacts on the terrestrial environment, for instance by causing mangrove mortality in some cays and mainland coasts. Currently, the ecosystems of the SCE are under varying degrees of pressure, with undisturbed mainland, marine and cay ecosystems intermixed with areas affected significantly by human activities, such as tourism, fisheries, mining, agriculture, livestock, forestry, industry, human settlements, transportation, and infrastructure. The most significant impacts on biodiversity within the SCE come from activities associated with the tourism, fishery and agricultural/livestock sectors, all of which play an important role in the local and national economies.

2. The proposed FSP would be the third and final phase of a long-term commitment by GEF to the project area. Phase 1 identified problems and opportunities, completed bio-geophysical, economic and social characterization of the SCE and developed a Strategic Plan. Phase 2 secured the conservation of particularly sensitive or high biodiversity value areas in a network of protected areas that covers 20% of the SCE, and made impressive progress in promoting an ecosystem-based approach within a traditionally centralized and sector-driven development-planning framework. The proposed Phase 3 will promote operational changes within the tourism, fisheries and agriculture sectors to ensure biodiversity conservation across the productive sea and landscape that make up 80% of the archipelago. In addition to interventions that directly change productive sector activities, the project also will strengthen the national, regional and local enabling environments for the financial, institutional, environmental and social sustainability of biodiversity conservation in these sectors.

3. Environmental Context: The SCE has considerable regional importance due to its high diversity of marine and terrestrial species, the high level of endemism of terrestrial flora and fauna, and the enormous variety and abundance of migratory birds which use the area as a stopping point between North America and points south. The project area includes extensive areas of globally significant ecosystems distributed throughout the landscape and seascape (cays, marine shelf and mainland watersheds), including mangrove forests, dry forest and coastal shrub systems, coral reefs and seagrass beds. The Sabana Camaguey Archipelago (SCA) constitutes the largest system of cays in the Wider Caribbean and represents 60% of all the Cuban cays in number (2,515 cays). Mangrove swamps are profusely distributed among the cays and along the mainland coast. The species diversity of the SCA includes 340 species of marine flora and 1,354 species of marine fauna. The highest values in marine species diversity are found in coral reef ecosystems and, to a lesser extent, in seagrass bed areas not affected by high salinity. Terrestrial flora in the SCE has great significance in the context of Cuba and the entire Caribbean, with 874 species of terrestrial flora reported, of which 151 are endemic. Terrestrial fauna is characterized by both high diversity of species and subspecies and large numbers of endemic and migratory species, and includes more than 1000 species of invertebrates, 239 birds, 45 reptiles, 10 amphibians, and 27 mammals. Eleven endemic genera, 107 endemic species and 47 endemic subspecies have been recorded, and 33 subspecies are exclusive for this zone.

4. Socio-Economic Context: Approximately 2.3 million persons live in 40 municipalities within the SCE. 16 of these municipalities are located in the coastal zone, with a total population of 747,123 inhabitants.

Fishing, tourism, agriculture and sugar production are the main productive sectors, and both economic activity and human populations are concentrated in the mainland areas of the SCE. The exception to this is fisheries activity in the sea and tourism, which is highly concentrated on the coastal cays. However, even participants in these sectors live on the mainland, as local residents, even construction workers and hotel employees, are not allowed to live on the cays. The best wages in the SCE are enjoyed by workers in the tourism and fisheries industries, as the former benefit from the opportunity to receive tips and other bonuses in foreign currency, while the latter benefit from receiving part of their salary in foreign currency, well above the national average. The agriculture sector is undergoing significant upheaval, as production of the most important crop (sugar cane) has declined by over 50% in the past 5 years.

5. Institutional Context: The Ministry of Science, Technology and Environment (CITMA) is the government agency responsible for environmental management in Cuba, and carries out its mandate through such bodies as the Environment Agency (AMA) the National Center for Protected Areas (CNAP), the Environmental Management and Auditing Center (CICA), the Environmental Information, Management and Education Center (CIGEA), and its Provincial Delegations (with their respective Environmental Units). The Ministry of Tourism (MINTUR) is responsible for all government polices and programs related to tourism, and is also the majority owner of many tourism enterprises, among them several large hotel chains (including 10 of the 14 hotels in the SCE), the national camping network, and tour operators. The Ministry of the Fisheries (MIP) is responsible for the management and marketing of the country's fisheries, as well as the environmental monitoring and control of marine resources, and it operates all commercial fishing enterprises in the country, including eight Basic Fishing Units in the SCE. Two ministries are responsible for productive land use in Cuba – the Ministry of Agriculture (MINAGRI) and the Ministry of Sugar (MINAZ). From an institutional point of view, MINAZ is responsible for lands under sugar cane production. However, with the advent of the Sugar Industry Conversion Program that began in 2003, MINAZ is also responsible for the ongoing management of its lands that are being converted from sugar cane production to other uses. The Ministry of Agriculture is responsible for the use, conservation and improvement of agricultural and forest lands; the conservation, management, rational use and sustainable development of forest resources; and the protection and increase of the cattle heritage and livestock raising, among other functions. Both MINAZ and MINAGRI operate production enterprises throughout the country; in the case of MINAZ, this includes 21 sugar cane producing enterprises in the SCE, as well as 23 former sugar cane producing enterprises that are being converted to other uses.

Sector Profiles: Sector Structure and Ecological Impacts

6. Tourism: The SCE is the second most important tourism development area in Cuba. Currently, there are 14 hotels with 4,337 hotel rooms in the SCE, primarily on Coco, Guillermo, Santa María and Las Brujas cays, and the area received 96,000 visitors in 2004. Tourism is expected to continue to grow rapidly in the SCE, with plans for 250,000 visitors and 34 hotels with 10,000 hotel rooms by 2010 (although Phase 2 of this project succeeded in reducing growth targets on the ecologically sensitive cays). The development of tourism in the SCE has had a significant impact on the socioeconomic conditions of the communities on and nearby the cays; tourism directly employs approximately 12,000 persons in the SCE, and these jobs are widely sought after for their high pay, opportunity for foreign currency earnings, and training in marketable skills. The impacts of tourism development are primarily felt on the cays, as well as surrounding marine ecosystems. Most of the tourism development to date has been based on the "sun and sand" model, with large hotel complexes and substantial supporting infrastructure (roads, causeways, service facilities, worker housing, etc.), which has led to significant habitat fragmentation, land conversion, land modification, disturbance of flora and fauna, and introduction of exotic/invasive species. The constructions of causeways that connect the cays to the Cuban mainland, which have been primarily to enable tourism development, have impacted some inland water areas, in some cases severely and over large areas. The management practices of existing tourism operations also have a negative

impact on biodiversity, as most hotels fail to reuse and/or adequately treat wastewater or to adequately manage the disposal of solid wastes, and also import substrate from the mainland and use exotic ornamental plants for their landscaping, which has led to significant dispersal of exotic species in some areas.

7. Fisheries: The marine shelf of the Archipelago Sabana-Camagüey is the second most important fishing area of Cuba, accounting for 20% of total national catches (35% of finfish and 15% of lobster). Primary fishing resources include lobster, lane snapper, mutton snapper, groupers, jacks, grunts, rays, commercial sponges, blue crabs, and queen conch. Fishing employs approximately 3,300 persons in the SCE, of whom 21% are women. Fishing activities have had significant impacts on marine biodiversity, stemming from overfishing, illegal fishing activity, destructive fishing gears and practices, and poor management of coastal aquaculture, which together have led to a reduction of fish stocks and the degradation of marine ecosystems. In addition, the construction of causeways for tourism and other development objectives has had poorly understood, but likely significant, effects on fisheries resources and marine biodiversity. At present, MIP is implementing new restrictions on fishing gears, including a prohibition on set nets (tranques) and the gradual reduction of the employment of bottom trawlers (chinchorros), in order to protect fish stocks and marine ecosystems. These prohibitions are expected to affect more than 250 fishermen, and MIP is required by law to offer these persons new employment sources or to provide them continued wages until they find new employment.

8. Agriculture, Livestock and Forestry: Until recently, sugar cane and livestock dominated agricultural land-use in the SCE. However, in response to declining world prices and increasing competition, in 2002 the Government of Cuba (GoC) decided to implement an Integrated Program of Conversion of the Sugar Industry, which calls for the reordering and improvement of all aspects of sugar cane production, including industrial facilities, agricultural lands, and the labor force. In 2003, the program made the decision to close 23 of the 44 existing sugar cane processing facilities in the SCE, and their associated lands (62% of the total sugar cane lands in the SCE) were taken out of sugar cane production. MINAZ is in the process of determining future uses of these lands, among which the most likely options are crop production (including monocultures and diverse crops), livestock management (including imported water buffalo), and forest production (including native forest management and plantation forestry). Existing agriculture related activities affect the terrestrial landscape of the SCE (although there is no significant agriculture or livestock raising on the cays) through habitat loss and fragmentation, land conversion and modification, removal of native flora and fauna, and the spread of exotic and invasive species, while marine systems are affected by eutrophication and enhanced silt/particulate levels from runoff of livestock manure, agricultural inputs (fertilizers, herbicides, pesticides) and soil degradation. These impacts could worsen if unsustainable practices become widespread on converted sugar lands.

GEF Expected Achievements / Reasons for Involvement

9. A number of barriers are presently impeding efforts to integrate biodiversity management objectives into the plans, strategies and operations of the productive sectors noted above. A more detailed assessment of the threats, root causes, and barriers is provided in narrative form in the UNDP Project Document (Section I, Part I), as well as in a matrix (Annex 5) and rankings assessment (Annex 6). The principal barriers are briefly summarized below:

10. Limited Integrated Planning and Institutional Coordination: The capacity of productive sector institutions and resource management agencies alike to carry out effective planning and coordination that mainstreams biodiversity conservation is extremely limited in the SCE. Phase II designed and officially created an Integrated Coastal Management Authority, which is designed to address the goal of inter-institutional integration and coordination yet this is still not operational except in a few specific municipalities, and requires significant strengthening in order to be effective at both the regional and local

levels. In the meantime, planning processes and development activities are carried out by each sector independently, with the result that impacts from one sector's activities on other productive or protected landscapes remain unaccounted for in planning decisions.

11. Incomplete regulatory framework and guidelines governing sectoral impacts on biodiversity: Existing laws, regulations, guidelines and enforcement mechanisms governing the three targeted productive sectors have significant gaps in the ways that they address environmental management, and in particular, the issue of biodiversity conservation. Legislation which addresses biodiversity directly is generally broadly written and does not include accompanying regulations which would allow for enforcement of new policies and activities on the ground. The institutional and regulatory framework also is often confused, so that for example monitoring and enforcement of resources such as fisheries and forests is subject to overlapping jurisdictions and competition between agencies.

12. Information Gaps on Biodiversity and Integrated Coastal Management: Gaps in knowledge about the condition and requirements of species and ecosystems of local and global significance constitute a barrier to mainstreaming biodiversity conservation into productive sector planning and activities and exacerbate the tendency to make decisions based on short-term consideration of narrowly defined economic benefits, to the detriment of economic and ecological sustainability. As a result, destructive building practices, introduction of alien species, inappropriate official fishing quotas, inadequate mesh sizes, etc. continue to be the outcome of many productive sector activities. In addition, planning for future activities by these sectors remains limited to areas in which information already exists; in other words, business as usual.

13. Absence of models for biodiversity-friendly alternative livelihoods: The lack of demonstrated models for biodiversity-friendly and economically sustainable alternatives within the SCE, and Cuba as a whole, continues to present a barrier to adoption and replication of alternative production systems. This barrier affects decision makers and managers, who feel constrained in their abilities to regulate or limit destructive practices (e.g. overfishing, high-impact tourism development, mono-culture cultivation) by the likely impact of increased controls on workers, and the lack of options to present to these workers as proven alternative employment opportunities.

PROJECT STRATEGY AND APPROACH

14. The project will focus on three production sectors that dominate resource uses within the Sabana Camaguey Ecosystem: tourism, fisheries, and agriculture/livestock production. After the activities focused on information collection, awareness raising, and establishment of protected areas in Phases 1 and 2, there is a need to work outside of protected areas and to focus on biodiversity across the productive land and seascape of the SCE. If long-term conservation is to be achieved, this broader approach to conservation is essential given the tight interrelations common in archipelagos and coastal and marine habitats. The GoC has expressed willingness and interest in advancing reforms, and in view of the centralized planning system, it has a strong capacity to implement them. Thus, Phase 3 will focus on implementing sustainable practices in the targeted productive sectors (tourism, fisheries and agriculture), and will also strengthen the enabling environment for supporting these changes in the long-term and beyond the life of the GEF intervention. This in turn will further address sustainability issues and enhance the long-term benefits of the previous two phases of the entire Program.

PROJECT GOAL, OBJECTIVE, OUTCOMES AND OUTPUTS/ACTIVITIES

15. 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 will be achieved through four main Outcomes as follows:

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.
2. The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE
3. Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored
4. The declining sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the SCE.

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
Total Cost: US$4,739,318; Co-Financing: US$3,877,700; GEF Request: US$861,618
Activities will strengthen the enabling environment at the national and local levels to support the reforms introduced and operationalized within the targeted productive sectors (Outcome 2-4).

1.1 Integrated Coastal Management Authority (ICMA) to coordinate the planning and activities of diverse government and social stakeholders within the SCE: The Integrated Coastal Management Authority (ICMA), which was designed and formally established during Phase 2 of the Sabana-Camaguey project, will be fully operationalized, providing an operational framework for management of environmental resources and biodiversity in the SCE, with the active participation of key stakeholders, through the development of coalitions for the protection and sustainable use of biodiversity. The outputs will include development and operationalization of an Environmental Information System for the SCE (SIAESC), to enable decision makers and resource users to make better informed decisions on development that enable improved conservation of biodiversity within the SCE.

1.2 Environmental education and capacity building for local inhabitants and participants in the three productive sectors: This output will establish the Capacity Building Centers for Integrated Coastal Management Network (CBC/ICM-N), which will act as the physical, logistical and information focal points for integrated coastal management within the SCE, and as such will support all of the varied functions of ICMA. This will receive input from, and be linked with, the Capacity 2015 Integrated Learning & Application Networks in other countries.

1.3 Lessons learned on integrated coastal management: This output will collect and disseminate lessons learned on Integrated Coastal Management and the mainstreaming of biodiversity conservation in productive sectors to persons in other parts of Cuba and internationally; and will undertake project monitoring and evaluation processes to support applications of best practices and lessons learned and to enable adaptive management throughout the life of the project

1.4 Institutional, policy and legal frameworks to support long-term financing of conservation and sustainable use of biodiversity within the targeted productive sectors: This output will establish a Sustainable Financing Program (SFP) to coordinate sustainable financing of biodiversity conservation activities (in coordination with the National System of Protected Areas). Financial mechanisms will support inter-sectoral entities (e.g. ICMA, CBC/ICM-N), sectoral institutions mainstreaming biodiversity conservation (e.g. Ministries of Tourism, Fishing, Sugar, Agriculture), and communities, enterprises and individuals who participate in biodiversity friendly production income generating activities. The output will develop and implement specific instruments and mechanisms, drawing on lessons learned from pilot projects for sustainable income generation (Outputs 2.2, 3.3, 4.3, 4.4 and 4.5) and in coordination with sustainable financing mechanisms in the tourism sector (Output 2.4).

Outcome 2: The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE
Total Cost: US$3,991,362; Co-Financing: US$2,665,178; GEF Request: US$1,326,184

2.1 Awareness and capacity building for adoption of environmentally sustainable practices: This output will include the delivery of technical assistance to hotels and tour operators in developing guidelines and codes of behavior for workers and visitors; capacity building and training for the tourism sector labor force in environmentally friendly practices; awareness-raising campaigns for visitor on minimizing impacts; and other awareness raising and training for targeted groups

(designers/architects, planning/zoning personnel, dive center personnel, etc.)

2.2 Development of nature related tourism at two pilot demonstration sites: This output will establish a pilot demonstration of nature related tourism at the Buena Vista Biosphere Reserve (BBR), and replication of best practices and lessons learned for nature related tourism at the Gran Humedal del Norte (wetlands area). Activities will also be carried out to promote nature related tourism at the existing tourism resort centers within the SCE, in cooperation with hotels and tour operators

2.3 Capacity building to enable replication of demonstration strategies: Activities under this output will focus on the integration of nature related tourism marketing strategies into overall Cuban tourism marketing strategies and processes and strengthening of local capacity to enable replication of nature related tourism throughout the SCE, including local inhabitants and managers of protected areas.

2.4 Sustainable financing mechanisms to support biodiversity conservation in tourism sector: This output will develop and implement revenue mechanisms (taxes, fees, etc.) to generate financial resources for biodiversity conservation, and define and implement rules for the distribution of these sums. This will provide inputs to the Sustainable Financing in Output 1.4

2.5 Tourism sector regulations and planning integrate biodiversity friendly practices: Activities under this output will seek to develop a common vision among local tourism sector participants on strategies to integrate biodiversity conservation; to strengthen the integration of environmental concerns into tourism sector planning processes; to reduce the impact of tourism infrastructure development on terrestrial and marine ecosystems; and to develop and implement guidelines for environmentally friendly tourism operations.

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

Total Cost: US$5,141,451; Co-Financing: US$3,980,300; GEF Request: US$1,161,151

3.1 Biophysical and socio-economic information for sustainable fisheries: This output will update and monitor critical information on ecosystem conditions and human activities necessary for decisions on regulations, fisheries practices and development strategies; including establishment of fishery reserves, closed areas, planning for development (e.g. causeway construction), and sustainable economic alternatives for fishermen.

3.2 Fisheries regulations and practices to stabilize and/or recover fish populations and species and habitats: Activities under this output will focus on reducing official target levels for fishing effort by the commercial fishing industry; strengthening regulations and mechanisms to ensure sustainable fishing practices for commercial, sport and subsistence fishing; and strengthening the enforcement capacity for applying fisheries regulations

3.3 Pilot projects to demonstrate sustainable livelihood alternatives for fishermen: This output will include three pilot projects to provide alternative livelihoods for fishermen affected by new restrictions on fishing levels and practices – 1) establishment of floating aggregating devices (FADs) for sustainable fishing: 2) commercial cultivation of molted Blue Crab; and 3) establishment of pilot farm for commercial cultivation of sponges

3.4 Fishermen and decision-makers support regulations and practices that conserve biodiversity: Activities under this output will include technical assistance, training and exchange of experiences on sustainable fishing practices among fishing enterprises and communities, and targeted awareness-raising activities in the municipalities where pilot projects and new restrictions on fisheries practices will be implemented.

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

Total Cost: US$13,600,546; Co-Financing: US$12,830,000; GEF Request: US$770,546

4.1 Land use planning/zoning for former sugar cane lands and facilities: This output will develop and implement a framework for improving existing planning for the conversion of sugar lands (e.g. to include biodiversity factors), and will support this framework with ongoing monitoring of impacts on biodiversity stemming from land use changes; assessments of marine-coastal water and sediment quality in response to management changes; and monitoring of populations of invasive species moving from converted sugar lands to natural landscapes

4.2 Establish capacity for biodiversity friendly production on former sugar cane lands: Activities under this output will build capacities within MINAZ to enable it to carry out sustainable and biodiversity friendly types of agricultural, livestock and forestry production in converted areas; as well as implementing economic incentives for workers on former sugar cane lands to promote their continued participation in agriculture, livestock and forestry production

4.3 Demonstrate pilot strategies for sustainable management of water buffalo: This output will implement biodiversity friendly animal rearing practices to reduce the impact on marine and coastal ecosystems of recently introduced water buffalo on former sugar cane lands, in one pilot area and one replication area within the SCE

4.4 Demonstrate pilot strategies for biodiversity friendly production: This output will implement management practices for biodiversity friendly agriculture, livestock and forestry activities on former sugar cane lands, demonstrating on one cooperative farm and replicating on another.

4.5 Sustainable forest management of biodiversity-rich coastal forests: This output will carry out reforestation, conservation, and productive management of coastal forest areas (former sugar cane lands and bordering areas) critical as buffer zones between agricultural and developed areas on the one hand and marine ecosystems on the other.

KEY INDICATORS, ASSUMPTIONS, AND RISKS

Indicators

16.. The Log Frame and the Result Measurement Table in Part 3 of the ProDoc provide the full list of indicators, baselines and targets, sampling information and a detailed justification for their selection. The following lists some indicative indicators:

- % of hotels in ecologically sensitive areas built according to planning guidelines that have incorporated biodiversity conservation recommendations
- % of operating costs of ICMA derived from sector based resources/mechanisms
- Increase in sector budgets for actions related to environmental conservation in the SCE
- % of new hotels in ecologically sensitive areas within the SCE that are planned with specific guidelines for biodiversity conservation
- Revenues from taxes and fees on tourism activities invested in biodiversity conservation within the SCE
- # of hectares of seascape under legal protection and demarcated for fishery reserves
- Number of incidents of illegal fish catches per unit effort of enforcement per year within the SCE decreases

Assumptions & Risks

Risk	Rating*	Risk Mitigation Measure
The three levels of government (national, provincial and local) and various sectors (tourism, fisheries, agriculture) cannot agree on coordinated efforts for resource management	L	Operationalization of the Integrated Coastal Management Authority, the strengthened capacity and awareness of its participants, and improved policy, legal and financial frameworks supporting biodiversity friendly practices, will allow ICMA to fulfill its statutory role as coordinating, management and conflict resolution body
The Ministry of Tourism is unwilling to develop options apart from the traditional and profitable "sun and beach" model	M	Development of successful demonstrations of alternative tourism models (i.e. nature related tourism) will actually increase the overall tourism revenues of the country by diversifying its product, and make traditional "sun and beach" tourism more profitable by providing additional attractions desired by tourists
The Ministry of Fisheries is unwilling to establish and enforce strong fisheries regulations	L	The Ministry of Fisheries is already implementing significant new restrictions on fishing gear, and reducing allowable fish catches, as it recognizes the decline of the fisheries resource in the SCE. Additional analysis of the marine ecosystems in the area will only reinforce this recognition, and demonstrated models for alternative fisheries production will provide managers with a viable alternative for workers in the sector
The Ministry of Sugar chooses to adopt short-term economic basis for deciding on appropriate uses of converted sugar cane producing lands	L	The first priority in Cuban agricultural is food production rather than economic returns, particularly since Cuba has little participation in exports of agricultural products, and managers are aware of the priority placed on maintaining the sustainable productivity of lands. This priority will be enhanced by demonstrated sustainable production practices, and by the lessons learned from the Cuba CPP for land degradation
Overall Risk Rating	**L**	

**Risk rating – H (High Risk), S (Substantial Risk), M (Modest Risk), and L (Low Risk).*

2) COUNTRY OWNERSHIP

COUNTRY ELIGIBILITY

17. Cuba is eligible for UNDP assistance and signed the United Nation Convention for the Conservation of Biological Diversity (UNCBD) in 1992. The proposed project will fulfill a number of provisions of the Convention, including elements of Article 6, Article 7, Article 8 and 10 as detailed in the UNDP Prodoc Part II Section 6a. The project addresses key elements of the Updated Programme of Work on Marine and Coastal Biodiversity, adopted at COP 7 [Decision VII/5 of COP 7] as detailed in table also in UNDP Prodoc Part II Section 6a. It also follows guidance created in Decision VII/14 of COP 7 on Biological Diversity and Tourism including establishing goals such as "sustainable tourism compatible with biodiversity conservation and sustainable use", "integration and interrelation with other plans, developments or activities in the same area", and "poverty reduction, through the generation of sufficient revenues and employment to effectively reduce threats to biodiversity in indigenous and local communities". Finally, the GEF Focal Point has played an active role in the preparation of the Concept Paper through the Environmental Agency (of the Ministry of Science, Technology and Environment - CITMA), and closely accompanied the development and negotiation of this Concept and fully supports its submission to the GEF.

COUNTRY DRIVENNESS

18. Cuba has an extensive institutional and legal framework supporting environmental regulations and guidelines with relevance to the proposed project. In 1975, the new Constitution of the Republic of Cuba recognized the need to protect the environment, and in 1977 the National Commission for the Protection of Environment and Natural Resources (COMARNA) was created. In 1994, as a result of increasing awareness on the importance of the environment for the economy, the Ministry of Science, Technology and Environment (CITMA) was created (see Institutional Context for details on CITMA).

19. The main elements of the environmental legal framework developed since 1994 include: the Environmental Law 81, 1997; Decree-Law for the Coastal Zone, 2002; Decree-Law on Protected Areas, 2002; National Biodiversity Strategy and Action Plan; Declaration of the first group of 33 Protected Areas of the National Protected Area System (including 11 in the SCE project area); Resolutions on Special Zones of Use and Protection (marine areas); Resolutions 143 and 111 for Management of Special Regions of Sustainable Development, and Access to Biodiversity Resources; Decree-Law on Fishing and the Fishery Inspection Corps; Resolution 77 on Environmental Impact Assessment, 1995; Establishment of a National System of Environmental Recognition; and Decree 272 on Regional and Urban Planning and Urbanism.

20. In the policy arena, Cuba has a National Environmental Strategy and a National Environmental Program that constitute the Cuban adaptation of UNCED Agenda 21. These provide guidance on environmental priorities and policies, including for sectoral activities. In addition, specific Sectoral and Regional Environmental Strategies exist as a way to involve stakeholders from different economic sectors and regions of the country in addressing environmental problems. The socioeconomic development of ecologically sensitive areas, such as the Sabana-Camagüey Ecosystem (SCE), has evolved gradually in the last years within this framework of cross-sectoral environmental management. By working closely with the main productive sectors of the SC ecosystem, and promoting the adoption of sustainable uses across the productive land and seascape, the proposed project is clearly in line with county priorities and directives for environmental conservation and sustainable development.

21. The Sabana Camaguey Ecosystem plays an important role in the national development framework, and the three productive sectors targeted by the project, tourism, fisheries and agriculture, constitute a

significant percentage of the Cuban economy. The Government of Cuba has demonstrated its commitment to the project, and its faith that the project objectives match its own national priorities, by agreeing to significant reforms of all three of these sectors within the context of the project. By working with the tourism, fisheries and agriculture sectors in the SCE to maximize synergies with biodiversity conservation, the proposed project can help shape the long-term sustainability of a key element of national development while capturing significant benefits to globally significant biodiversity.

3) PROGRAM AND POLICY CONFORMITY

FIT TO GEF OPERATIONAL PROGRAM AND STRATEGIC PRIORITY

22. The project is eligible under the GEF BD 2 "Mainstreaming Biodiversity in Production Landscapes and Sectors". It will mainstream biodiversity conservation into the tourism, fisheries and agriculture sectors, promoting changes in the practices of these sectors and provide an enabling environment for supporting these changes. It will include specific components geared to induce the changes in each of the relevant productive sectors. Strengthening the enabling environment to support these changes will also provide the financial, institutional, social and ecological sustainability of the impacts achieved over the entire Program. These will include strengthening of inter-institutional coordination through systemic and institutional capacity building to the project's five provinces and five reference municipalities, as well as to the directorates of the ICMA, the development of sustainable financing mechanisms for biodiversity conservation and linking of the management activities of tourism, fisheries and agriculture/livestock-raising sectors to protected area to the activities across the productive landscape.

23. Global biodiversity benefits would clearly be captured in coastal and marine ecosystems, and as such the proposed project will support GEF Operational Program 2; Coastal, Marine and Freshwater Ecosystems. The project design support both of the primary objectives of OP2 – Conservation and Sustainable Use. Conservation will be ensured by establishing various forms of protected zones for the fisheries sector, as well as guidelines and regulations restricting the location and scale of tourism development. Sustainable use will be ensured by seasonal restrictions and gear and practice restrictions on fisheries, development of sustainable nature related tourism, and improved planning and management to make agriculture, livestock and forestry practices more biodiversity friendly. The project also meets the primary assumptions for OP2 projects, namely that the project scope will cover a variety of ecosystem types that are identified as priorities within national biodiversity strategic plans and programs, and the best practices and lessons learned from the project will be replicated both within the SCE and in other locales in Cuba and throughout the Caribbean. Additional information on the project's conformity with GEF BD2 and OP2 is provided in the UNDP Project Document (Section I, Part II).

SUSTAINABILITY (INCLUDING FINANCIAL SUSTAINABILITY)

24. Project efforts to ensure institutional sustainability will focus on actions within the targeted productive sectors, as well as the institutional framework in which they operate. Regarding the first point, by focusing the project on reforms within the productive sectors, the relevant line ministries will be involved and the reduction of threats and removal of barriers will occur at the sources and be sustained by the reforms achieved in each sector. At project end, key practices in these sectors will incorporate biodiversity conservation considerations and as such the sustainability of impacts after the GEF intervention will be self-perpetuating. In addition, the project also will strengthen the enabling environment to support changes in the productive sectors (see Outcome 1), which will further facilitate the sustainability of the project's objectives. The primary instrument for promoting and coordinating long-term participation by national, provincial and local institutions in pursuing project-related objectives will be the Integrated Coastal Management Authority (ICMA). By year 3 of the project, ICMA will be

integrated into the existing structure of the National Watershed Council (CNCH), the highest national authority for watershed planning and management. Because ICMA's operations are specifically mandated to build on existing structures, rather than creating new ones, the CNCH provides a relevant existing institutional structure in which to locate ICMA. The Government of Cuba (GoC) has demonstrated support for ICMA in its structural design (granting it authority at the supra-ministerial level) and its commitment to providing sufficient staffing levels once ICMA is operational (including post-project). Given Cuba's centralized political system, the high-level support for ICMA from the GoC will ensure that the targeted productive sectors will support and participate in its ongoing operations.

25. In addition to institutional sustainability, the project is also designed to promote the sustainability of its technical and social components. Regarding the former, the project will undertake considerable capacity building through the Capacity Building Centers – Integrated Coastal Management Network (CBC/ICM-N), as well as activities within the sectors, to ensure that a wide array of stakeholders possess the technical capacity to continue implementation of conservation related activities after the project ends. As for social sustainability, the project design includes widespread public participation, particularly within the ICMA framework, as well as a number of pilot demonstration projects for sustainable alternative livelihoods that will provide positive incentives for ongoing participation by local inhabitants.

26. During the project implementation, a Sustainable Financing Program (SFP) will be established to generate additional long-term financial resources for biodiversity conservation and sustainable management in the productive landscape of the Sabana Camagüey Ecosystem. Financial resources generated by the SFP will help to fund ongoing inter-sectoral entities that support biodiversity conservation (e.g. ICMA, CBC/ICM-N), sectoral institutions attempting to mainstream biodiversity conservation into productive sector activities (e.g. Ministries of Tourism, Fishing, Sugar, Agriculture), and communities, enterprises and individuals who participate in the development of economically sustainable and biodiversity friendly production income generating activities. Additional information on sustainability issues is provided in the UNDP Project Document (Section I, Part II).

REPLICABILITY

27. The project has been designed to promote replication of pilot demonstration experiences in each of the targeted productive sectors: tourism (e.g. nature related tourism), fisheries (sponge cultivation, molted blue crab cultivation, floating aggregation devices.) and agriculture/livestock raising (reforestation, sustainable agriculture, water buffalo management). Each of the pilot demonstrations includes plans, targets and budget allocations for replication during the project. In addition, lessons learned from operating the Integrated Coastal Management Authority (ICMA) will provide valuable models for ICM processes in other locales. Each of the five provinces involved in the project also has appreciable coastal and marine areas along the southern coast of Cuba, making it highly likely that provincial authorities will have a ready opportunity to replicate successful models developed by the project on their southern coastlines. The potential for effective and widespread replication of the project's activities is enhanced also by the cross-sectoral design of the project and the wide participation of stakeholders. Unlike many biodiversity conservation projects, this project is an equal effort of environmental conservation agencies on the one hand and productive sector agencies on the other, from the project design process to the composition of project staff to the allocation of funds. Additional information on replicability is provided in the UNDP Project Document (Section I, Part II).

STAKEHOLDER INVOLVEMENT

28. Because the project is focused on interventions in the productive sectors and landscape, several productive sector ministries will be integral parts of the project management structure and implementing unit. As in Phases 1 and 2 of this project, the Ministry of Science, Technology and Environment

(CITMA) will be charged with inter-sectoral activities. However, in a departure from Phases 1 and 2, the remainder of the project, focused on capacity building, policy and legal changes, and pilot demonstrations in the productive sectors, will be the direct responsibility of the relevant ministries, in this case the Ministry of Tourism, the Ministry of Fisheries, and the Ministries of Agriculture and Sugar. These four ministries, as well as the productive enterprises (hotels, fishing companies, agricultural areas, etc.) that they manage, have been closely involved in all stages of the development of the proposal, and the significant human and technical resources that they have provided for the design of the project are one indicator of the level of commitment they will make to project implementation. In addition to Government of Cuba institutions and productive enterprises, the project will depend on the widespread participation of regional, provincial and local level governments, individuals, NGOs, and other entities. Participation of these actors will be ensured by the substantial project resources devoted to operationalizing the Integrated Coastal Management Authority (ICMA), and establishing Capacity Building Centers for ICM in each of the five provinces of the SCE. Additional information on stakeholder involvement is provided in the UNDP Project Document (Section I, Part IV)

MONITORING AND EVALUATION

29. Project monitoring and evaluation will be conducted in accordance with established UNDP procedures, by the Project Management Unit (PMU) and the UNDP Cuba Country Office with support from UNDP/GEF. The logical framework matrix provides *impact* indicators for project implementation, along with their corresponding *means of verification*, which will form the basis for Monitoring and Evaluation. Following UNDP procedures, quarterly progress and financial reports will be prepared by the PMU and presented to the Project Steering Committee (PSC) at its quarterly meetings. A joint Annual Project Review (APR) and PIR (Project Implementation Review) will be undertaken annually. In addition, independent mid-term and end-of-project evaluations will be made to identify project strengths, document lessons, and facilitate the correction of weaknesses. Additional information on monitoring and evaluation is provided in the UNDP Project Document (Section I, Part III and Annex 17) and in the GEF Tracking Tool provided in Annex 15 of the same document.

4) FINACIAL MODALITY AND COST EFFECTIVENESS

FINANCIAL MODALITY

30. The proposed FSP will have a total cost of US$27.67 million, of which the Government of Cuba (GoC) will provide US$22.03 million, GEF US$4.12 million and others US$1.32 million. GoC co-funding resources will be allocated through the variety of line ministries and sectors that are involved in the project. These resources will cover a range of inputs supporting all of the outputs in the proposed project. UNDP's Capacity 2015 will support the establishment and operation of the Capacity Building Centers for Integrated Coastal Management Network, providing training in knowledge management strategies and tools, including technical courses, manuals, methodologies, etc., specifically designed for application to the three productive sectors targeted by the project. The Spanish NGO EcoDesarrollo will provide cofinancing for designing ecotourism products in conjunction with existing hotels and tour operators in the SCE, and for reducing the impact of tourism infrastructure development. The NGO World Wildlife Fund – Canada will provide co-financing to test and validate innovative best practices for the fishing sector, including: substituting trawling and other destructive techniques with more sustainable methods; protecting reproduction areas and seasons; and enforcing regulations with the participation of cooperatives and coastal communities. Additional information on GEF and co-financing contributions is available in the UNDP Project Document (Section III).

Table 1: Detailed description of estimated co-financing sources

Co-financing Sources				
Name of Co-financier	**Classification**	**Type**	**Amount (US$)**	**Status**
Government of Cuba	Government	Cash + In kind	22,032,000	Confirmed
UNDP (Cap 2015)	Implementing Agency	Cash In Kind	537,000 40,000	Confirmed
EcoDesarrollo	International NGO	Cash+ In Kind	92,178	Confirmed
WWF Canada	International NGO	In Cash	652,000	Confirmed
Sub-Total Co-financing			**23,353,178**	

COST EFFECTIVENESS

31. The recent Terminal Evaluation of Phase II of this project highlights the extraordinary cost effectiveness achieved in previous project phases through the considerable effort made to stretch funds and leveraging in-kind support from institutions and consultants. However, unlike this earlier phase, the proposed project involves the direct participation of productive sectors of the Cuban economy, each of which will provide significant financial inputs to the project as well as technical expertise, management experience, market and product knowledge, etc. Core staffing costs will be covered by GoC co-funding, which will not only provide cost efficiencies by allowing GEF resources to focus on the provision of needed additional skills and equipment, but will also support the sustainability of impacts and the maintenance of new capacities within the Government after project closure. The project strategy is to share conservation management costs between different stakeholder groups: government, public-private enterprises, and local communities, as much as possible accommodating costs within the regular costs of doing business. For the pilot demonstration projects, this will be achieved through improving efficiencies in production, marketing and distribution of sustainable and biodiversity friendly products and services, so that the productive sector activities become self-sustaining and all costs are internalized. Furthermore, the cost effectiveness of interventions will be enhanced through systematic integration of biodiversity management objectives into policies, plans and sector development strategies, and the development of voluntary compliance measures and incentives for the private sector. In addition the project is cost effective for biodiversity conservation, in terms of the amount of globally significant biodiversity that it conserves; the likelihood of success of the project; and the amount of funding spent. This along with details on the other above mentioned aspects of cost effectiveness is further detailed in Annex 14 of the UNDP Prodoc.

5) INSTITUTIONAL COORDINATION AND SUPPORT

CORE COMMITMENTS AND LINKAGES

32. The UNDP Country Programme for Cuba (2003-2007) is focused on priorities that cut across the most urgent development problems of the country, and the stated goals of the Sabana Camaguey project comply with and support these priorities in several ways. The UNDP programme priority "*Strengthening Management Capacity for Human Development*", aimed at developing local capacities (at the community, municipal and provincial levels) to strengthen local economies, and to improve the gender equity thereby making local development environmentally sustainable, is supported by activities in the proposed project for promoting operational changes at the local and provincial levels within the key productive sectors in the SCE. The proposed project also will support the priorities for "*Strengthening of Productive Capacities*" and "*Improvement of Food Security*", in particular through the project activities focused on the conversion of the sugar cane industry to economically and environmentally sustainable production systems, which will increase household incomes and food security, provide capacity building for local inhabitants and resource management, and prevent negative impacts on coastal and marine biodiversity.

Also, the project supports the priority of *"Improving the Quality of Life"*, which identifies such project activities as protected area management, biodiversity conservation, actions to address land degradation, and coastal zone management (among others) as target areas for intervention. Additional information on core commitments and linkages is provided in the UNDP Project Document (Section I, Part II).

CONSULTATION, COORDINATION AND COLLABORATION BETWEEN IAS, AND IAS AND EXAS

33. Cuba is currently implementing several GEF projects that have thematic links to the proposed project. Among these is the UNDP-GEF project "Demonstration of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean", which is setting up pilot demonstrations to test innovative technical, management, legislative and educational approaches for reducing the input of contaminants into international waters. The lessons of this project on waste management and mitigation in coastal and marine ecosystems will be of great benefit to the Sabana Camaguey project, and mechanisms for information exchange between the two projects will be established. Cuba also is participating in the project, "Integrating Watershed & Coastal Area Management in Caribbean SIDS (IWCAM)", involving 13 Caribbean countries, which addresses regional and country-specific issues related to management of watersheds and the marine environment (project is located on the coast of Cuba outside of the SCE).

34. In addition to the projects noted above, two additional GEF-supported initiatives will be closely linked to the Sabana Camaguey project. One is the UNDP-GEF project "Strengthening the National System of Protected Areas", which will coordinate closely with the Sabana Camaguey project on issues of sustainable financing and tourism development within protected areas. The other is the proposed GEF Country Programme Partnership (CPP), which will provide support to Cuba in combating land degradation, desertification and drought. The CPP will have positive effects on reducing the impact of land degradation, soil erosion and run-off nationwide, including in the Sabana-Camagüey Ecosystem (on-the-ground interventions of the CPP will not be undertaken in watersheds that drain into the SCE). Capacity building of land management and planning institutions by the CPP, including the National Watershed Council (CNCH), also will help to consolidate the integrated institutional approaches to planning represented by the Integrated Coastal Management Authority for the Sabana Camaguey Ecosystem. During the development of both the CPP and the Sabana Camaguey project, close consultations between project teams have taken place, and coordination will continue during the implementation of both initiatives, ensuring that there is no overlap and that national priorities will be promoted while capturing global benefits in both biodiversity and land degradation issues. Additional information on GEF projects in Cuba is provided in the UNDP Project Document (Section I, Part II).

PROJECT IMPLEMENTATION ARRANGEMENTS

35. During execution of the FSP, the Ministry of Science, Technology and the Environment (CITMA) will have lead responsibility for cross-sectoral activities, including the Integrated Coastal Management Authority, learning networks and public awareness and education, sustainable financing mechanisms, etc. (Outcome 1 of the project). In addition, three ministries of the Government of Cuba (Ministries of Tourism, Fishing, and Sugar) will take lead responsibility for execution of activities in their respective sectors (Outcomes 2-4 of the project). The Project Management Unit (PMU) will be headquartered within CITMA, with some members located at the provincial offices of CITMA within the SCE, and productive sector members of the PMU located within their respective ministries. The PMU will have responsibility for project implementation and management of resources on a day-to-day basis, and PMU staff will prepare workplans, budgets, project proposals, progress reports, etc. The Project Coordinator (CITMA) and the three Sector Focal Points (MINTUR, MIP and MINAZ) are responsible for leading and controlling the implementation of project activities with an integrated approach, although each of the three productive sectors will utilize its own procedures and norms for implementing activities. The Project Steering Committee (PSC) will be responsible for overseeing the project, approving plans and

budgets, coordinating the inputs and support of national and international partners, and monitoring and evaluation of results and lessons learned. In addition, any decisions that require modification of the outputs and activities of the project, or changes to legal structures and mechanisms, will be the responsibility of the Project Steering Committee. Additional Information on project implementation arrangements is provided in the UNDP Project Document (Section I, Part III)

ANNEXES

ANNEX A: Incremental Cost Analysis

ANNEX B: Project Logical Framework

ANNEX C: Responses to Project Reviews

a) Convention Secretariat comments and IA Response
b) STAP Review and IA Response
c) GEF Secretariat Comments and Responses

Annex A: Incremental Cost Analysis

1. Regional Context and Broad Development Goals

The Sabana-Camagüey Ecosystem (SCE) occupies a strip of approximately 465 km along the central north coastline of Cuba, including watersheds along the northern mainland and an archipelago that includes 2,515 cays, which represent 60% of all the Cuban cays and the largest system of cays in the Wider Caribbean. Approximately 2.3 million persons live within the 40 municipalities belonging to the Sabana Camaguey Ecosystem (SCE). Of these 40 municipalities, 16 are located in the coastal zone, with a total population of 747,123 inhabitants. Fishing, tourism, agriculture and sugar production are the main economic activities in the project zone. Economic activity and human populations are concentrated in the mainland areas of the SCE, with the exception of fisheries activity in the sea and tourism, which is highly concentrated on the coastal cays. However, even with tourism development in the cays, human populations are still located on the mainland, and construction workers and hotel employees are largely prohibited from living on the cays on which they work. The variety of habitats in the SCE, including coastal forests, mangrove forests, seagrass areas, coral reef systems, etc., support a great diversity of marine and terrestrial biota and a high level of terrestrial endemism, which places this zone among the richest in biodiversity in Cuba and the Caribbean. This biodiversity plays a critical role in local socio-economic development, particularly as essential inputs to the tourism, fisheries and agricultural sectors. The overall goal of the proposed full project 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.

2. Global Environmental Objective

The Project will help to conserve globally significant biodiversity in the Sabana Camaguey Ecosystem (SCE). The SCE has considerable regional importance due to its high diversity of marine and terrestrial species and the high level of endemism of terrestrial flora and fauna, in terrestrial and marine ecosystems that are much less degraded than most similar areas in the Caribbean. The project area includes extensive areas of globally significant ecosystems distributed throughout the landscape and seascape (cays, marine shelf and mainland watersheds), including mangrove forests, dry forest and coastal shrub systems, coral reefs and seagrass beds. Species of global significance include migratory birds, endemic plant and animal species, flamingos and other threatened and charismatic birds, marine turtles, manatee, dolphins, crocodiles, etc.

The project will conserve this biodiversity by supporting the transformation of the tourism, fisheries, and agriculture/livestock sectors. The project will support development of these sectors (thereby supporting local development) along a path that conserves and sustainably uses biodiversity, thereby providing the region and the world invaluable experiences of mainstreaming biodiversity conservation in productive sector activities. Furthermore, the project will demonstrate operational and institutional mechanisms for Integrated Coastal Management, with valuable potential for replication in coastal areas worldwide.

3. Baseline

Outcome 1: In spite of the high priority that the Government of Cuba places on the conservation of biodiversity and the sustainability of its development programs, social and economic pressures can still promote decision making based on short-term revenue decisions that will compromise globally significant biodiversity. In the baseline scenario, the primary criteria for development and planning decisions in the Sabana Camaguey Ecosystem will be short-term profitability and economic growth on a sector by sector basis. Sector-based decision making will continue to minimize the role that biodiversity and ecologically sustainable practices play in economic development, and as a result biodiversity resources will be ignored

and degraded. The planning and management processes for the SCE at the inter-sectoral and regional level will continue to pay scant attention to environmental concerns, while environmental planning and oversight will remain sector specific and unable to address issues at the landscape or ecosystem levels. Moreover, the legal, regulatory and enforcement framework for environmental management, and particularly for biodiversity conservation, will remain incomplete and ineffective. What regulation and protection does exist for biodiversity in the SCE will continue to be focused on protected areas, and the productive landscape and seascape will continue to be heavily impacted by human activity.

In the baseline scenario, the possibility of acquiring relevant understanding about species, populations and ecosystems of national and global importance to enable informed management and decision making would be severely reduced. In addition, economic incentives for biodiversity friendly investments and practices will remain almost non-existent, providing no impetus for change in the traditional high-impact development and resource management practices common in the area. As well, actual models of successful sustainable tourism, fisheries, and agriculture and livestock raising economic activities will not be available to promote understanding and support for biodiversity conservation among productive sector stakeholders, or to provide demonstrable alternatives to traditional development models. Opportunities to develop local capacity for integrated coastal management will also be severely limited in the baseline, as existing efforts (e.g. Capacity 2015) will not have resources adequate to carry on their programs.

Baseline funding for activities related to the enabling environment for mainstreaming biodiversity conservation into the productive sectors is low at $202,884, reflecting low investments in intersectoral coordination and planning (see Baseline Funding Table below). The role of CITMA and other environmental agencies in the baseline scenario will be limited largely to basic environmental monitoring and protection activities, largely through the five monitoring stations established during Phase II. CITMA will continue to implement small projects, including: automating environmental and biological diversity information; carrying out ecological assessments of bird communities; and in cooperation with the National System of Protected Areas, monitoring and protecting terrestrial and marine ecosystems in Caguanes National Park, monitoring the West Indian manatee within Caguanes National Park, and monitoring the impacts of public use in Caguanes National Park.

Outcome 2: In the Tourism Sector, the baseline scenario will see continued negative impacts of tourism development and operations on coastal and marine ecosystems and the biodiversity they harbor, primarily from poorly planned infrastructure development, solid and liquid wastes, invasive species, and visitor impacts. The traditional "sun and beach" model of tourism will continue to be the only tourism development pursued in the SCE, as tourism sector stakeholders remain unaware of the options for and benefits of alternatives such as nature related tourism. Some projects for improved management of existing tourism infrastructure will take place, such as a project for use of indigenous flora for gardening in tourist facilities in the Northern Cays of Ciego de Ávila and creation of an ISO 14000 Environmental Award for tourist resorts in the North Eastern cays of Villa Clara Province, but essential technical and organizational capacity will be inadequate to fundamentally diminish environmentally damaging practices and inefficient use of resources. Baseline programs and projects also will carry out some environmental assessment for planned tourism development, including studies of littoral dynamics on beaches and modeling of sediment dynamics in the northeastern cays of Villa Clara province, but information sharing and consultative systems will not be in place to ensure that such information is used so that planned tourism development takes account of critical environmental factors such as impacts on particularly fragile or ecologically important ecosystems. Baseline funding for biodiversity-friendly activities in the tourism sector is significant at $6,630,861, reflecting the importance of the sector in the Cuban economy.

Outcome 3: In the Fisheries Sector, the baseline scenario will see continue overfishing and destructive fishing gear and practices leading to significant deterioration of fish stocks and marine biodiversity. For the most part, baseline activities will continue to focus on research of marine ecosystem processes,

through such projects as a study of the life cycle and fisheries of the spiny lobster (*Panulirus argus*) and the impact to them of human activities; a study of coral reef composition and structure in the area north of Coco Cay, and development of methods and technologies to forecast oceanographic processes in the Cuban insular shelf. However, the results of these studies will not necessarily be readily available to fisheries managers, nor applied in fisheries resource management practices. Baseline programs and projects for management of fisheries stocks will be largely limited to species-specific management plans for critically declining species such as lobster, Queen conch, and commercial sponges, and broader scale and proactive approaches to fisheries management will remain unfulfilled. Moreover, although fisheries managers have recently implemented new gear restrictions, the capacity to monitor and enforce these restrictions is limited, and the sector has no plans or capacity to provide alternative livelihoods for fishermen put out of work by these management changes. Baseline funding for biodiversity-friendly activities in the fisheries sector is $1,520,377, a relatively low amount reflecting the strong focus of the sector on maximizing fisheries production.

Outcome 4: In the Agriculture and Livestock Sector, the baseline scenario will see continued degradation of terrestrial ecosystems and downstream effects on marine ecosystems from soil degradation, pollution, the spread of exotic species and other impacts stemming from poor agricultural practices. The large-scale conversion program of former sugar cane producing lands will implement programs of intensive monocrop production, high impact livestock management, and plantation forestry using exotic species in the absence of viable, sustainable alternative production systems. In the baseline scenario, resources will be devoted to improved forest management, through such projects as improved forest pest management, reforestation and forest planning in the northern part of Camaguey province, and reduced timber harvesting in Sancti Spiritus province, but these actions will not focus on conservation of the coastal forests that provide a critical buffer between agricultural production areas and the marine environment. The baseline will also see some efforts at improving waste management, such as the development of bio-digesters for the treatment of wastes from small, medium and large agricultural and livestock facilities, but these efforts will be purely technical and will not include changes to the planning or monitoring systems to sustain long-term changes in waste production and management in the sector. Baseline funding for biodiversity friendly activities in the agriculture, livestock and forestry sectors is $7,458,291, reflecting the significant investments of the Ministry of Sugar in the land conversion process.

4. GEF Alternative

Outcome 1: By the end of the project, there will be an operational framework for management of natural resources and economic activities within the Sabana-Camagüey Ecosystem that is supportive of the protection and sustainable use of biodiversity. This framework will depend on the active participation of decision makers, resource managers, fishermen, tourism sectors workers, agriculture, livestock and forestry producers, and local communities in planning and decision-making processes within the context of stakeholder coalitions at the Provincial and SCE levels. Overall responsibility for ensuring the coordinated participation of these various stakeholders, and for ensuring that policies and actions are supportive of integrated coastal management and the mainstreaming of biodiversity conservation into productive sector activities, will lie with ICMA, which has already received a mandate from the Government of Cuba to lead inter-sectoral coordination in the SCE. To support the operations and coordination of ICMA, the productive sectors, and other stakeholders, and Environmental Information System for the SCE (SIAESC) will be established to collect, organize, and disseminate information generated by the project. In addition, the CBC/ICM-N will undertake capacity building activities to allow various stakeholders to participate effectively in new coordination and management processes, and to apply these changes within their own areas of responsibility. The project also will support the dissemination of lessons learned and best practices on integrated coastal management to other areas of Cuba and elsewhere, including the model of ICMA for other coastal zones. Finally, in order to ensure that the benefits of ICMA, the SIAESC, the CBC/ICM-N and other processes for mainstreaming

biodiversity conservation across sectors will continue over the long term, the project will design and implement various sustainable financing mechanisms.

In addition to significant support from the Government of Cuba, co-financing for Outcome 1 will be provided by UNDP through the Capacity 2015 program, in particular for the establishment and operation of the Capacity Building Centers for Integrated Coastal Management Network (CBC/ICM-N) (Output 1.2), and linkages between this network and the Capacity 2015 Integrated Learning & Application Networks in other countries (Output 1.3). Additional co-financing for capacity building measure related to mainstreaming biodiversity conservation in the fisheries sector will be provided by WWF-Canada (Output 1.3).

Outcome 2: Activities under Outcome 2 have been designed to ensure that the rapidly expanding tourism industry in the Sabana Camaguey Ecosystem is developed and managed in a way that maximizes consideration of biodiversity conservation and minimizes negative impacts on the globally significant coastal and marine ecosystems of the area. Awareness raising of environmental conservation will target numerous stakeholders, from educating and providing guidelines to the local workforce, as well as visitors, so as to reduce their individual threats to the coastal and marine ecosystems, to assisting local authorities in understanding and dealing with the linkages between tourism development and operation and threats to local ecosystems, to study tours related to best practices in environmental management and conservation in the tourism sector in the Caribbean. The project also will develop tools and guidance so that new hotels, infrastructure and related services planned for development in the region will comply with the framework and associated principles and standards. Tourism development planning processes, including the Tourism Master Plan for the SCE, environmental impact assessments, and others, will be updated to incorporate biodiversity concerns, through the joint efforts of MINTUR, the Institute of Physical Planning in the Ministry of Economy and Planning, major government tourism companies, Gaviota S.A. and Cubanacan S.A., and others. In addition to reducing negative impacts, the project will also demonstrate an alternative model for tourism development in Cuba from the traditional "sol y playa" experience. By promoting nature related tourism, the project will offer Cuba the opportunity to test a tourism development model with much lower impacts on the environment, and in particular on fragile ecosystems such as the cays and marine areas of the SCE. The project will demonstrate various "packages" for nature related tourism activities within one of the protected areas in the SCE, and based on lessons learned, will replicate these activities at another protected area.

In addition to significant support from the Government of Cuba, co-financing for Outcome 2 will be provided by a Spanish NGO, Ecodesarrollo, through its project for "Technical training and infrastructure creation for ecotourism development and resource sustainable management in public use areas of Cayo Romano". This cay, which is located within the Protected Area Gran Humedal del Norte, is one of the pilot demonstration sites for ecotourism development under activity 2.2.2. The resources and expertise of Ecodesarrollo will also support project activities for designing ecotourism products in conjunction with existing hotels and tour operators in the SCE (activity 2.2.3), as well as reducing the impact of tourism infrastructure development (activity 2.5.3).

Outcome 3: Activities under Outcome 3, to be implemented by the Ministry of Fisheries (MIP) in cooperation with local governments, government fisheries companies, resource management and conservation agencies, and individual fishermen, will work to reduce activities harmful to the coastal and marine environment. Information on fisheries resources and marine ecosystem conditions will be expanded to allow for improved management. Additional laws, regulations and policies, such as restrictions on the extraction of commercial species and by-catch, new fishery protection zones, harvest quotas, and gear restrictions, will be implemented. To make sure that implementation is successful, significant capacity building will take place to improve monitoring and enforcement within the SCE, complemented by awareness rising among fishermen and other local inhabitants about the impacts of

certain practices on long-term fisheries viability, about the details of new regulations, and about new sustainable employment opportunities. The project also will implement pilot project activities to demonstrate sustainable economic alternatives for fishermen, in particular for those fishermen whose jobs are eliminated by new regulations and reduced quotas (estimated at 250 fishermen working in 37 boats). By offering alternative livelihoods, these pilot projects will ensure that these fishermen do not switch to other activities that might negatively impact biodiversity. Several different alternative sustainable fisheries options will be developed. There are several areas with suitable ecological conditions for sponge cultivation, and existing natural stocks of sponges are sufficient to support the seeds for this activity without any population decline. In addition, blue crab cultivation will be developed, as these are among the must abundant species in inshore areas and have a high market value. Finally, the use of FADs (Floating Aggregating Devices) for attracting fish in open waters close to the marine shelf is also a promising alternative which diverts fishing pressure away from depleted shelf resources.

In addition to significant co-financing by the Government of Cuba for activities under Outcome 3, WWF Canada will provide co-financing through its project "Development of a Modern Sustainable Fishing Sector" during the years 2006-2008. This project will primarily support activities for awareness building and local capacity under Output 1.4, by establishing Local Committees to support fisheries management and to develop local management capacities; by modernizing fishing enterprises with environment-friendly equipment and skills and awareness building and training on principles of sustainable development; and by co-administration of the project by the Local Committees in preparation for transfer of responsibilities.

Outcome 4: The overall objective of the activities under Outcome 4 is to develop and implement alternative models for the conversion of lands formerly under sugar cane production, including sustainable and biodiversity-friendly agriculture, livestock raising and forestry, and to simultaneously develop capacities and an enabling environment that will ensure that these models are replicated throughout the conversion program (within the SCE and elsewhere in Cuba). The Government of Cuba, represented by both MINAGRI and MINAZ (which will have primary responsibility for implementing activities under Outcome 4), has asserted its willingness to explore a variety of sustainable production alternatives on lands that were formerly under sugar cane production. The project will develop and implement mechanisms for improving existing planning for the conversion of sugar lands, and promote the integration of coastal and marine biodiversity conservation factors into existing plantation/enterprise level planning processes. To enable adequate management, the project also will build capacities within MINAZ to enable it to plan and manage more sustainable and biodiversity friendly types of agricultural, livestock and forestry production in converted areas. In order to demonstrate the viability of sustainable agricultural models, the project will establish demonstration (and replication) projects for sustainable agricultural production (crops, fruit trees, timber), for biodiversity friendly management of water buffalo, and for sustainable management of coastal forest ecosystems as buffer zones protecting marine ecosystems from land-based impacts. The project will also establish positive incentives for producers of sustainable products, for example by developing market strategies and distribution linkages to enable sale of agricultural and livestock products to the tourism centers within the SCE. This will serve to make such products more attractive to producers and to the government alike, as tourists are more willing and able to pay a premium for agricultural goods.

Co-financing for activities in this sector will come solely from the Government of Cuba, but at a very high level ($13,600,546), of which approximately 80% is for personnel and equipment for management of coastal forests.

5. System Boundary

The project area is defined by the Sabana-Camagüey Ecosystem (SCE), which occupies a strip of approximately 465 km along the central north zone of Cuba, between Punta Hicacos (west) and Nuevitas Bay (east) (see Annex 4, Map 1). The SCE includes the northern watersheds of the provinces of Matanzas, Villa Clara, Sancti Spíritus, Ciego de Ávila, and Camagüey; as well as a marine archipelago, adjacent shallow marine shelf, and oceanic Exclusive Economic Zone. Overall, the project is intended to impact biodiversity conservation in the productive landscape and seascape of the SCE. Unlike Phases 1 and 2, which focused on establishment and operation of protected areas, Phase 3 is specifically designed to affect the management of fisheries, tourism and agriculture activities, which for the most part take place outside of the protected areas system in the SCE. In so doing, Phase 3 will provide a critical complement to Phases 1 and 2, so that together the long-term investment of the GEF over all three phases results in the conservation of globally significant biodiversity across the entire breadth of the project area.

The project will be implemented across the following areas of landscape and seascape within the Sabana Camaguey Ecosystem (see Annex 15 for more details):

- Buena Vista Biosphere Reserve + Great Wetland of the north of Ciego de Ávila (tourism pilot projects): 540,377 ha
- Marine areas (fishery pilot projects): 277,000 ha
- Former sugar cane producing lands (agriculture pilot projects): 3,057 ha
- Former sugar cane producing lands (water buffalo pilot projects): 2,740 ha
- Former sugar cane producing lands and bordering areas (forestry pilot projects): 42,446 ha
- Total Landscape indirectly covered by the project: 2,280,000 ha
- Total Seascape indirectly covered by the project: 831,100 ha

6. Incremental Costs

The Baseline associated with the project is estimated at US$15,812,413. The GEF Alternative is US$43,285,090. The total Project Cost is US$27,472,677, of which US$4,119,498 is GEF funding (not including the PDF-B budget of US$200,000). These GEF funds have leveraged US$23,353,178, and the ratio of GEF to other financing is 15% to 85%. Costs have been estimated for five years, the duration of the planned project.

7. Incremental Cost Matrix (US$)

Cost/Benefit	Baseline	Alternative	Total Increment	GEF Contribution
Domestic Benefits	Government efforts to reduce tourism impacts, restrict and reduce fishing, and find alternatives for sugar production provide some improvements to productive resource conditions and economic production	Improved environmental management and coordination capacities, with legal, policy and financial frameworks that support conservation, lead to sustained economic growth and resource conservation		
Global Benefits	Sector specific management practices provide protection to	Inter-sectoral mechanisms and integration of		

Cost/Benefit	Baseline	Alternative	Total Increment	GEF Contribution
	some globally significant biodiversity, but only in limited areas, mostly incidental to resource production priorities, and without accounting for cross-sectoral impacts	biodiversity concerns into sector decision making enables more effective conservation of globally significant biodiversity		
Outcome 1: Enabling Environment	202,884	4,942,202	4,739,318	861,618
Outcome 2: Tourism Sector	6,630,861	10,622,223	3,991,362	1,326,184
Outcome 3: Fisheries Sector	1,520,377	6,661,828	5,141,451	1,161,151
Outcome 4: Agriculture / Livestock Sector	7,458,291	21,058,837	13,600,546	770,456
Cost Totals	**15,812,413**	**43,285,090**	**27,472,677**	**4,119,498**

Additional details on the funding provided for each outcome by each co-financing partner is provided in the UNDP Project Document (Annex 16).

8. Summary of baseline funding by outcome

Outcome	GEF budget	Baseline sources (acronyms below)	Nature of baseline activities	Start (year)	End (year)	Baseline funding (US$)
Outcome 1: A strengthened enabling environment for biodiversity conservation in the productive sectors in the ESC	861,618	PRCT/CITMA/IES	Automation of Cuban environmental and biological diversity information. (Methodology)	2006	2007	91,600
		PRCT/CITMA/IES	Ecological assessments of bird communities in tropical ecosystems	2006	2007	95,400
		FNMA/CITMA	Surveillance and protection of terrestrial and marine ecosystems in Caguanes National Park.	2006	2007	8,910
		FNMA/CITMA	Monitoring the West Indian manatee within Caguanes National Park.	2006	2006	2,130
		FNMA/CITMA	Monitoring the public use in Caguanes National Park.	2006	2006	4,844
			Total baseline funding: Outcome 1			**202, 884**
Outcome 2: The tourism sector develops	6,630,861	PRCT/CITMA/IGT	Methodological basis for the environmental zonation in tourist development areas.	2006	2006	6,100

in accordance with the conservation of marine and terrestrial ecosystems within the ESC		FNMA/CITMA	Strategy for the creation of the tourist environmental culture in the local population of Remedios and Caibarien cities.	2006	2006	3,500
		PTCT/CITMA (Ciego de Ávila)	Littoral dynamics in the beaches of "Jardines del Rey" Tourist Destination, Sabana Camagüey Archipelago	2006	2006	201,919
		PTCT/CITMA (Ciego de Ávila)	Characterization of the Sabana – Camagüey Archipelago.	2006	2006	65,013
		PTCT/CITMA (Ciego de Ávila)	Archaeological researches on the lodging system in the North Lagoon (Laguna Norte), Ciego de Ávila.	2006	2006	256, 685
		PTCT/CITMA (Ciego de Ávila)	Technological management of the indigenous flora for its conservation and exploitation for gardening in tourist facilities in the Northern Keys of Ciego de Ávila.	2006	2006	50, 944
		MINTUR / CITMA	Local certification of the beaches in the northern coast of the Matanzas Province.	2006	2008	250,000
		MINTUR / CITMA / ALMEST	Ecological restoration of the beaches in the northern coast of the Matanzas Province.	2006	2011	1'090,000 each year= 5'450,000
		ALMEST / CITMA	Modelling of sediment dynamics in the North Eastern keys of the Villa Clara Province	2006	2008	100,000
		ALMEST/ GEOCUBA	Environmental diagnoses according to the standards ISO 14 000 for the Environmental Award in five tourist resorts in the North Eastern keys of the Villa Clara Province	2006	2010	40,000
		MINTUR /CITMA	Environmental management of the Northern coastal zone of the Camagüey Province	2006	2019	206,700
			Total baseline funding: Outcome 2			**6,630,861**
Outcome 3: Sustainable fisheries are practiced within the ESC so that fish populations and marine ecosystem functions are maintained and/or restored	1,520,377	MIP/CIP	Assessment, control and management of lobster fisheries in Cuba.	2006	2009	260,000
		MIP/CIP	Interrelation between life cycle and fisheries of the spiny lobster (*Panulirus argus*) in the Cuban shelf.	2006	2009	244,000
		MIP/CIP	Management measures for the fisheries of Queen conch and other mollusks in Cuba.	2006	2009	152,000
		MIP/CIP	Management, evaluation and improvement of the efficiency in the fisheries of commercial sponges (*Spongidae*) in the Cuban shelf.	2006	2009	164,000
		MIP/CIP	Integral environmental assessment and state of the feeding potential of the lobster resource. Influence of anthropogenic activities on the oceanographic variables and their relation to the lobster resource in the north-central region of Cuba.	2006	2009	332,000

Outcome 4: The declining sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the ESC.		PRCT/CITMA/IDO	Marine Biodiversity in Cuba	2006	2006	59,400
		PRCT/CITMA/ CEBIMAR	Conservation and assessment of marine microorganisms in collection.	2006	2006	74,200
		PRCT/CITMA/IDO	Development of methods and technologies to forecast oceanographic processes in Cuban insular shelf.	2006	2006	80,000
		PRCT/CITMA/IDO	Diagnosis of the environmental situation existing in Jagüey Bay (northeast of Cuba) with regard to food intoxication of marine origin.	2006	2006	74,600
		PTCT (Ciego de Ávila)	Composition and structure of coral reefs north of Coco Key.	2006	2006	80,177
			Total baseline funding: Outcome 3			**1, 520,377**
	7,458,291	PRCT/MINAG	Morphological characteristics of *Leucaena spp*. collections and selection of actions for agro-forestry systems.	2006	2007	79, 591
		PRCT/MINAG/IIF	Integral characterization of forest species.	2006	2007	40,000
		PRCT/MINAG/IIF	Improvement of forest pest management in Cuba.	2006	2006	28,600
		PRCT/UH/ICA	Climate change and the forest sector: second approximation.	2006	2006	19,300
		PRCT /MINAG/IIF	Development of bio-digestors for the treatment of wastes from small, medium and large agricultural/cattle rearing productions.	2006	2007	99,500
		FNMA/CITMA	Promotion of the agroecological productivity from farmer to farmer for a sustainable agriculture.	2006	2009	187,800
		FNMA/CITMA	Sustainable decrease in tree logging in CP Contramaestre, Sancti Spíritus.	2006	2006	42,200
		FONADEF/ MINAG	Forest plantations in northern sector of Camagüey province.	2006	2009	2, 214,300
		FONADEF/ MINAG	Reforestation Projects for the conservation of the flora and fauna in northern sector of Camagüey province.	2006	2009	3, 998,000
		CITMA	Reforestation Project of Limones-Tuabaquey sector, Camagüey province.	2006	2007	559,000
		FONADEF/ MINAG	Forestry planning in Camagüey province.	2006	2007	190,000
			Total baseline funding: Outcome 4			**7,458,291**
			Grand Total Baseline Funding			**15,812,413**

Acronyms:

CEBIMAR: Marine Bioactives Research Center
CIP: Fisheries Research Center
FNMA: National Fund of Environment
FONADEF: National Forestry Funds
ICA: Institute of Animal Sciences
IDO: Institute of Oceanology
IES: Institute of Ecology and Systematic
IGT: Institute of Tropical Geography
IIF: Institute of Forestry Research
MINTUR: Ministry of Tourism
MIP: Ministry of Fisheries
PRCT: Sectoral Scientific Technical Programs
PTCT: Territorial Scientific Technical Program

Annex B: Logical Framework Analysis

Table 1: Objectively Verifiable Impact Indicators

Project Strategy	**Objectively verifiable indicators** (Unless otherwise noted, all target values are for end of project)				
GOAL:	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				
Project Purpose	**Indicator**	**Baseline**	**Target**	**Sources of Verification**	**Risks and Assumptions**
OBJECTIVE: The fisheries, tourism and agriculture sectors in Sabana Camaguey adopt operational changes that enable biodiversity conservation.	1. Key measurements of biological health of coral reefs, seagrass beds & mangroves within SCE stabilize or improve: - Avg. coral cover of sea bottom - Total area of mangroves - Density of seagrass beds (shoots/m^2) 2. Key measurements of biological health of selected indicator fish species within SCE stabilize or improve: - Average size of parrotfish - Average size of snappers - Average size of groupers 3. Area of seascape within SCE benefiting from biodiversity friendly management by productive sectors (sustainable fisheries) 4. Area within SCE affected benefiting indirectly over the long term by changed productive sectors: - Landscape - Seascape	 12% 1627 km^2 548.8 15.02 cm 19.02 cm 19.61 cm 0 km^2 0 km^2 0 km^2	 0% decrease 0% decrease 0% decrease 0% decrease 0% decrease 0% decrease 2,770 km^2 22,800 km^2 8,311 km^2	- Monitoring stations: 30 reef (15 shallow & 15 deep), 50 seagrass bed, and 50 mangrove - Rapid ecological assessments - Project monitoring reports - Project monitoring reports	- Stable political and socio-economic environment continues in Cuba - The 3 target sectors continue to show commitment to cooperating in biodiversity conservation and to achieve sustainable use of resources and the environment
Outcome 1: A strengthened enabling environment will exist for the financial, institutional,	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) 2. Frequency of access to an Environmental Information System for the Sabana Camaguey Ecosystem (SIAESC) by	0%	75%	- Statutes, rulings, and operating documents of ICMA-SCE - Surveys of	- Legislation, regulations and enforcement mechanisms to enable environmental conservation are

environmental and social sustainability of biodiversity conservation in the tourism, fisheries and agriculture / livestock sectors in the SCE.	key stakeholders, including: - SCE municipal authorities - State enterprises - CITMA, EIA licensing authorities 3. Financial sustainability of biodiversity mainstreaming activities: - % of operating costs of ICMA derived from sector based resources/mechanisms - Increase in sector budgets for actions related to environmental conservation in the SCE - Tourism Sector - Fisheries Sector - Agriculture Sector	 0% usage 0% usage 0% usage 0% $2,820,000 $456,700 $3,959,770	 75% 60% 90% 50% $4,075,000 $840,697 $6,667,281	ICMA-SCE managers, ICM local coalitions, and local and national govts - ICMA budget documents - Sector budget - Sector budget - Sector budget	supported within the Govt. of Cuba - Political will exists within CITMA, MIP, MINTUR and MINAZ to enable integrated coastal management within the SCE, and to advance the conservation of biodiversity within each ministries respective sector
Outcome 2: The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE.	1. % of new hotels in ecologically sensitive areas within the SCE that are planned with specific guidelines for biodiversity conservation in the following categories - With liquid waste treatment systems (tertiary treatment plants) - Use of native vegetation in gardens and landscaping 2. Percentage of visitors to the SCE participating in nature related activities 3. Increase in the percentage of tourist packages that offer alternative models to “sun and sand” 4. # of new roads built following biodiversity friendly construction guidelines in ecologically sensitive areas 5. Decrease in coral reef mortality from diving activity 6. Revenues from taxes and fees on tourism activities invested in biodiversity conservation within the SCE	 50 % 50 % 5% 0% 0% 0.01cases/10 m^2 $0	 100% 100% 10% 10% 100% 50% decrease $200,000/year	SCE Tourism Master Plan; on-site inspections; EIAs and building permits. Surveys of hotel & tour managers, and tourists EIA and inspections Coral monitoring	- The tourism sector continues to show willingness to look at development options apart from the traditional “sun and beach” model of tourism in Cuba

Outcome 3: Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored	1. # persons deriving incomes at least equal to that previously earned in commercial fishing, from the following sustainable practices: - Cultivation of sponges - Use of Floating Artificial Devices (FADs) - Cultivation of Blue Crabs	 0 fishermen 0 fishermen 0 fishermen	 14 fishermen 22 fishermen 36 fishermen	- Project reports on fisheries sustainable livelihoods pilot projects	- Political will continues in the MIP to establish and enforce a systems of fisheries regulations
	2. # of hectares of seascape 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)	0 ha	90,000 ha	- Formal resolutions from MIP establishing fisheries reserves	- The political will to create fisheries reserves exists within the MIP, and the GoC on a larger scale
	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	- Fishery Inspector Corps reports (MIP)	
	4. % of fish captured by commercial fisherman in bottom trawl nets and set nets that are below the legal size limit is reduced: - Bottom trawl nets - Set nets	 65% 47%	 10 % 0 %	- MIP statistics	
	5. Stabilization of habitat and fish stock conditions after bottom trawling ban in north of Villa Clara Province: *Health of seagrass beds (*shoots/m^2) - North of Villa Clara Province - Bahía de Nuevitas - Playa Bagá *Increase in fish biomass* (grams / m^2) - Nazabal region - Caibarién Zone - Puerto de Sagua	 250 350 0.57 1.06 0.68	 0% decrease 0% decrease 0% decrease 0% decrease 0% decrease	- Biological surveys	
	6. Decrease of Total Fishing Mortality (Z) per year for key finfish species, at Caibarién fishing grounds	Lane snapper: Z =1.15 Mutton snapper: Z = 0.94 Yellowtail snapper: Z = 0.86	35% decrease 20% decrease 20% decrease	- Stock assessment and linearized catch curves	

		Porgy: Z = 0.67 Grunts: Z = 1.23	5% decrease 15% decrease		
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.	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 replication sites) *1a. Guamuta Cooperative Farm – Sergio Gonzalez Enterprise* (demonstration site) Protected Forest Plantation Forest (native and exotic species) Fruit trees Various Crops Livestock area *1b. Monte Lucas Cooperative Farm (Unidad Proletaria Enterprise)* (replication site) Forest (natural and plantation) Fruit trees Various Crops Livestock area 2. Area of sustainable, biodiversity-friendly management of livestock (buffalo): *2a. La Magdalena Cooperative Farm (Aracelio Iglesias Enterprise)* (demonstration site) *2b.Yarual Cooperative Farm (Bolivia Enterprise)* (replication site) 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* *3b. Monte Lucas Cooperative Farm* *3c. La Magdalena Cooperative Farm* *3d. Yarual Cooperative Farm*	 0 ha 8.3 ha 3.1 ha 9.4 ha 0 ha 4.0 ha 1.0 ha 16.6 ha 844.2 ha 0 ha 0 ha 0 persons 0 persons 0 persons 0 persons	 145 ha 578 ha 67 ha 91 ha 142 ha 300 ha 50 ha 80 ha 1,605 ha 1,520 ha 1,220 ha 552 persons 596 persons 24 persons 24 persons	- Land surveys and reports from productive sector ministries - Project reports - Vegetation surveys	- Sugar cane land conversion processes continues to receive political support, and there is no delay of the entry into force of new land use regulations

	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	14,000 persons		
	5. Area of natural coastal forest protecting coastal and marine biodiversity:				
	a. Chambas Municipality (Ciego de Avila province)	1,246 ha	2,246 ha		
	b. Bolivia Municipality (Ciego de Avila province)	2,000 ha	3,959 ha		
	c. Moron Municipality (Ciego de Avila province)	4,000 ha	4,300 ha		
	d. Minas Municipality (Camaguey Province)	8,000 ha	8,500 ha by yr 3		
	e. Marti Municipality (Matanzas Province) (replication site)	21,075 ha	23,441 ha		
	6. Decrease in organic contaminant loads, measured in Nitrogen (NT), Potassium (PT), and Biological Oxygen Demand (DBOsed), from converted sugar cane lands to inshore marine areas and reef areas	<u>2003 figures</u>:	Stable or less than baseline values	Annual reports of the Management Centers of the Provincial Environmental Units	
	- W Bahía de Cárdenas:	NT=34.65 µmol/L PT=0.31 µmol/L DBOsed=1.57 mg/L			
	- W Bahía de Santa Clara:	NT = 27.29 µmol/L PT = 0.40 µmol/L DBOsed=2.31 mg/L			
	- Ensenada de Carbó (Bahía Buenavista):	NT=175.41 µmol/L PT = 5.00 µmol/L DBOsed=5.58 mg/L			
	- Cerca de Río Máximo:	NT = 15.52 µmol/L PT = 0.88 µmol/L DBOsed=1.97 mg/L			

Annex C: Response to Project Reviews

a) Convention Secretariat Comments and IA/ExA response
(To be inserted as appropriate)

Comment: The CBD indicated that there was an apparent lack of consideration of COP guidance and requested clarifications regarding whether or not this project will be considered within the framework of the financial mechanism of the Convention.

Response: The proposed project will fulfill a number of provisions of the Convention including elements of Article 6, Article 7, Article 8 and 10. It addresses key elements of the Updated Programme of Work on Marine and Coastal Biodiversity -Decision VII/5 of COP 7- and the Decision VII/14 of COP 7 on Biological Diversity and Tourism. Addition text detailing this has been added to the Executive Summary paragraph 17 and to the UNDP Prodoc Part II Section 6a.

b) STAP expert review and IA/EXA response

STAP Expert Review

PREFACE

This review of the proposal to GEF for the Project "Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana Camaguey Ecosystem, Cuba" follows the outline suggested by the Guidelines for STAP Reviews. It is based on the personal and professional experience of the reviewer after working many years in the Philippines. All comments and suggestions are open for discussion since there are various avenues to address the issues associated with biodiversity conservation in Cuba and elsewhere. There is no one correct or proven way but only those that have been shown to be relatively more effective based on experience of the last 20 plus years. This reviewer has no personal experience in Cuba so all comments are based on the proposal as written and thus may miss the finer points of knowing the project area better.

Given that this proposal is for Phase III of a program that has already completed Phases I and II, and given that it is a bit difficult to fully understand the history in relation to the newly proposed project, some comments made in this review might already have been addressed by the earlier phases or may not be relevant.

This review is comprised of three sections: 1) an introduction that presents some broad points useful to improve the proposal, 2) a discussion on the 'key issues' listed for the technical review, and, 3) few comments on the proposal outcomes and activities. The final section summarizes key points made in the review and notes the fully adequate responses made by project team to the review comments herein. Finally, the reviewer is available for further consultation and can send references as needed.

1. INTRODUCTION

This project appears timely and needed in an area of Cuba that is known for its rich and diverse marine, coastal and upland ecosystems. It is also an area that is naturally productive through its fisheries and agriculture sectors as well as a growing tourism industry. Thus, the project area is important for the Cuban economy and the tourism industry provides an incentive to improve conservation in the area of concern as well as other conservation objectives for protecting the Sabana Camaguey Ecosystem (SCE).

The project document indicates an area that still has numerous issues that are impacting on the coastal and marine environment, outside of the more strictly protected area, that are only beginning to be brought under control. Phases I and II of the project have apparently provided much of planning inputs and some of the baseline information for the currently proposed Phase III. Thus, the first 2 phases have provided the experience that sets Phase III in motion with a foundation for action. It also seems that Phase III is really intended to become the full scale implementation phase while the previous 2 phases were more focused on planning, baseline assessment, education and implementation of the core areas of the larger protected area.

Over fishing, destructive fishing, inappropriate tourism development, poorly planned shoreline infrastructure development, upland development among others seem to paint a picture of many issues spread over a large marine and terrestrial area within the larger project boundaries of the SCE. An initial impression is that the project may be attempting to cover too large an area and be trying to address a variety of issues beyond its capacity to be effective. This impression will be discussed more but it is worth pointing out that many similar projects project this image in their proposals and as a result spend their first several years deciding what they can effectively accomplish. This message suggests that project targets might be too ambitious and that the proponents might want to home in on several high priority issues and make sure that these can be addressed during the project. Other issues can also be addressed as they link to the primary issues. In this regard, a graphical analysis of the issues and their underlying causes is essential to make the project rationale understandable. Phases I and II should provide ample baseline information upon which to base the targets and indicators for Phase III although a summary of the indicators is still lacking from the proposal.

As a result of having worked in several coastal management and biodiversity conservation projects in Asia in recent years, I understand the temptation to take on too much in a given project. If the project is attempting to promote integrated coastal management (ICM), it is important to be inclusive. But there is a danger in not finding a manageable focus.

Overall, the proposal is well prepared and very thorough in its coverage of the proposed outcomes and activities to accomplish the outcomes. The threats analysis also leads logically into the outcomes and activities so that the proposal is comprehensive and seems to cover all its bases without any major gaps. But, because the project is quite broad in nature and addressing a whole range of issues spread over a wide geographical area, I encourage the implementers to try to be more specific in some cases and to give the main emphasis or focus of work for the project.

Although I lack a personal sense of the geographical area of the project, I presume from the project proposal that several major forces will permanently change the areas resources and ecosystems, if not redirected soon. These forces are destruction of the marine environment from fishing and over fishing; and the rapid development of tourism in vulnerable small-island, coralline and sand cay environments. Thus, a consideration might be for the project designers to focus on and ensure that these two large and difficult problems are fully addressed through the project. Other, more land based and agriculture issues can still be part of the project but could be secondary issues so as to not detract from the resources needed to address the primary issues.

The consequences of damage incurred from destructive and over fishing and inappropriate tourism development are highlighted in the proposal. It also appears that these issues are of major concern in Cuba and especially in the SCE. But, I am not aware of the legal arsenal available to deal with these issues. I am also not aware from the proposal of the extent that local communities are aware of these problems, from a legal or simply a practical and personal perspective. That is, do tourism operators know that a causeway or beach wall is detrimental to their beach and may cause erosion. Does the local or national government know that causeways cause immediate changes in the local marine ecosystems

through changes in the movement of water, larvae and nutrients. Fishers often know when they break the law but if the laws are not very explicit or well advertised, they may be operating in relative innocence.

In the Philippines, a factor contributing to the increasing awareness about coastal resources management (CRM) or integrated coastal management (ICM) is that many local municipal and city governments are engaged in the planning for and management of their coastal areas and resources. More than 100 coastal municipalities and cities (covering 3500 km of coastline) have CRM plans that are being implemented with their own budgets and personnel and with such best practices in place as: improved coastal law enforcement, marine protected areas (MPAs), zoning schemes for marine uses including tourism and aquaculture, licensing of selected activities. In all cases, coral reefs, mangroves and their associated fisheries, among other resources, are a high priority for protection and management and are usually the beneficiary of the law enforcement and MPAs. Nevertheless, this scale of management at the local government level is still relatively new and requires much technical assistance to make it viable.[1]

The Philippines, similar to the project area in Sabana Camaguey, has severe over fishing and destructive fishing issues to deal with. And, in many cases, this is mixed with a growing marine based tourism industry. Local coastal residents depend on fisheries for livelihood and as tourism comes in, it offers a viable alternative to the status quo. These issues in coastal and marine areas, among others, have highlighted the need for integrated planning and management as the most viable means to manage all the various uses under one umbrella of the local government with some guidance from the national government. And in the Philippine case, the local government has full jurisdiction over its coastal and marine resources to 15 km offshore. Although the national government sets the broad policy context, all enforcement is devolved so the sustaining unit of management is the municipality and city. Thus, although local stakeholder communities are important in the management process, being the primary stakeholders of a given fishery, communities operate under the laws of the local government, and the only organized and sustained enforcement, registration and licensing for small-scale fisheries, is through the local government (municipality or city). Localized law enforcement through the volunteer groups in the Philippines although effective in some areas, is highly variable. A better system is emerging whereby the local governments form a coastal law enforcement unit that coordinates with neighboring municipalities and has some support from the national police and coast guard.

This point regarding the local government role needs to be fully reflected in the Sabana Camaguey Ecosystem (SCE) proposal since it has been amply shown that most "community-based" projects of the 1980's in the Philippines have floundered unless they have been fully supported and endorsed by their respective local governments. Similarly, those projects that were too heavily controlled by the national government (including national marine protected areas) have also failed in many areas because of poor, or unenthusiastic participation of the communities or local governments. Several instructive projects in the Philippines, such as Apo and Gilutongan Islands described in the literature have the support of the municipal government as well as the immediate coastal communities. Technical assistance has been provided by outside projects in both cases but the sustaining factors have been the full participation of the local authorities and community groups. In this case, the communities are comprised of both fishers and tourism stakeholders where scuba diving and marine attractions are located.

Another analogy that could help in the design of the SCE project is the recently adopted coastal resource management benchmark system for local governments in the Philippines. This "CRM benchmark system" is a relatively simple and yet robust system by which local governments and national government can set targets and measure advances in the development if ICM within local governments around the

[1] Philippines is most likely much farther along in decentralizing CRM or ICM functions to local governments than Cuba. The Philippine experience is rich in this regard and could offer some lessons for Cuba. Information on the Philippine experience is available on the website: www.oneocean.org

country. In the case of the SCE, such a system could be designed and tested for the project area which is large enough to be representative of other areas in the country and could be designed to include adequate benchmarks to ensure that biodiversity conservation objectives are being met. This system is described in detail in several publications on the website www.oneocean.org.

In addition to the CRM benchmark system, the Philippines is rapidly establishing and improving MPAs to help sustain the larval sources for target fishery and vulnerable marine species. Most MPAs include no-take zones or "sanctuary areas" are established for multiple reasons, including improved food fish catch as well as developing tourism opportunities in some areas. The planning for MPAs needs to be flexible and consider all the conservation concerns of a given area, community and local government. In this regard the newly established MPA rating and evaluation system in the Philippines is valuable to ensure consistency in MPA design and in establishing common criteria for good MPA management and results.[2] The SCE Project might consider adopting a similar rating and evaluation system for the MPAs or zones within the larger projected areas.

Another key point about coral reef and fisheries management, is that true no-take zones are essential for the reef ecosystem and its associated fisheries to recover to a relatively natural state. It has been shown in various studies that reef fish abundance, diversity and biomass recover quickly inside no-take or 'sanctuary' zones within MPAs. It has also been shown that fisheries outside of no-take marine reserves tend to recover to some extent from a spill-over effect and from limitations on fishing methods in the same area. It has also been shown that fish aggregating devices (FADs) and artificial reefs are generally not effective at augmenting fisheries beyond short-term increases in catch. The background information for the proposal is not so clear on the actual presence of no-take sanctuaries within the SCE although the use of FADs is indicated as a fishery management tool.

A few key points that could be better incorporated into the proposal based on the above introduction, are:

a. The role of local governments is not adequately recognized to assist to sustain and institutionalize the project at the local level, monitor the more strictly protected areas and the need for integration in the municipal or city development plans.

b. The CRM or ICM planning process needs to incorporate into the initial stage of the local area management to ensure proper baseline assessment to planning and implementation so that the local government builds on addressing all their CRM needs. The CRM benchmark system can be adjusted and adopted to make larger project wide interventions more consistent and to help to institutionalize the project objectives within the local government system up to national level.

c. The MPA rating system being initiated in the Philippines can assist to guide the MPA planning and development process of the project. The various protection zones could be monitored and evaluation as separate MPAs so that local stakeholders could begin to identify with the management regime for areas that affect their traditional uses and practices. In this regard, the MPA management and rating system could help standardize the localized management efforts and to engage more closely the stakeholders for a particular place.

d. The need for improved national policy is not fully addressed in the project. The management of the protected areas within the SCE needs to be part of the evolving policy of integrated coastal management (and fisheries) so that it is part of whole management process. The national

[2] The Coastal Conservation and Education Foundation, Inc. (CCEF) based in Cebu City along with more than 20 partners nationwide (government and non-government) have endorsed the MPA rating system so that a common MPA guide exists for the country. This is available at www.coast.ph or by email at ccef@mozcom.com

government can benefit ICM policies that are beginning to integrate fisheries and tourism management from this process for application in other areas in Cuba.

e. Appropriate and participatory CRM plans can help set the trend within project areas and local governments for effective implementation of MPAs and associated management plans. The implication is that stakeholder involvement is essential and to fully address the problems of illegal and over fishing, stakeholders to the smallest community must be involved and feel some benefit from the project.

f. Within the fisheries management section, there is reference to the use of Fish Aggregating Devices or FADs. I find this surprising in that recent research indicates that FADs and artificial reefs operate in a similar way and generally add to the over fishing problem by simply aggregating fish and making fishing easier. Although appealing to fishers because of efficiencies achieved, in an area where fishing effort is already too great, a FAD exacerbates the problem and allows the existing capacity to catch more fish for an initial period only. After the initial phase is over, fish catches tend to decline and a higher degree of over fishing comes into effect.

2. ***KEY ISSUES***

A. Scientific and technical soundness of the project

Most threats to the coral reef and other marine ecosystems have been addressed in the proposal and are quite well elaborated. One thing missing though is a clear diagram that shows the primary issues and their contributing factors that the project intends to address. It is difficult to wade through all the text and see the bigger picture for issues and threats of the SCE that then drive the project outcomes and objectives.

The proposal misses in important opportunity to make use of the base line scientific data that has been collected in Phases I and II. The baseline data for the coastal and marine environment, in terms of coral reef benthic cover, fish abundance and diversity, oceanographic features and others, could make the proposal more directed and help in setting of targets that are realistic. Also, any marine environment trends could be highlighted as supportive evidence for actions that are being proposed. Although some of this data may be in the proposal appendices, it should be summarized and shown in tables and graphs in the introduction to the proposal. Percent change targets are not very meaningful without being based in real data.

Also, the geographic extent of the project areas is a bit fuzzy in the proposal. The maps are not very clear as to areas where the project will operate. This is why I mentioned that the proposal seems to cover too much geographical area and too many issues to really be effective. A more focused set of maps and showing actual areas of project operation and extent would be very useful to guide the project implementation. This could also indicate the extent of the ICM planning areas broken down by local government jurisdictions.

Similarly, methods to be used for monitoring the coastal and marine environment should be specified. A standard marine data collection system should be employed that is both scientifically rigorous as well as applicable for community and/or volunteer groups to apply. The sustainability of a localized effort over time will depend on how easy it is to replicate monitoring over many years beyond the time of project support. Methods that are used in the Philippine context have been adapted for local use as a national standard and can be seen in the book, “Coral Reef Monitoring for Management” by Uychiaoco et al. (2001) and through the MPA Report Guide of the Coastal Conservation and Education Foundation, Inc. (www.coast.ph).

Indicators are useful to achieve the objectives but they need to be quite simple so that all project participants and local stakeholders can understand and endorse them. The indicators can provide benchmarks of success that will help to push the project along knowing that the ultimate goal and objectives will take time and long term investment. It would be useful to review indicators of several long-term CRM projects in the Philippines for compatibility and for seeing what is practical. The Coastal Resource Management Projects (CRMP) supported by USAID in the Philippines has indicators that are useful to consider because they are essentially the same as those ultimately adopted by the local governments for their own CRM or ICM programs and helped build ownership of the project through local institutions (CRMP 2004: www.oneocean.org).

Monitoring through the local governments and the private sector partners will be essential. The communities usually do not monitor themselves very well but at the municipal and city levels, this is possible with some prodding by NGOs, academe and the national government agencies active in a given area. It might be worth considering the establishment of a Monitoring and Evaluation System for CRM under national government that can be applied within local government areas. The incentive that encourages its use is that of being certified in CRM once certain basic benchmarks are achieved. A prototype of this system is available in a book: "Monitoring and Evaluating Municipal/City Plans and Program for Coastal Resource Management (DENR-CMMO 2003).

The conservation of biodiversity is a large task that requires a fully integrated approach. This project will certainly contribute to marine biodiversity conservation in many ways but the big question is whether the increasing demand for fish and recreational use of the marine environment will overrun the ability of the management bodies to implement their plans. It would appear that at present, a system does not really exist, conservation is thus not being achieved and biodiversity is being sacrificed. The project will slow this degradation and to turn it towards a more positive and sustainable track if implemented as proposed. But, the project will have to be very systematic to achieve this since the momentum of degradation is tremendous and can easily roll over the best of intentions—unless well planned and strategic.

The project does not seem controversial in any way and gaps that might exist revolve around the ability of the project to become sustainable. There are no easy short cuts to building sustainability at the local levels in Cuba or elsewhere. The project thus needs to be fully sensitive to the local government systems and to the culture of the communities involved from the fishers to the tourism operators. Most of these potential issues are discussed in the project proposal but more emphasis needs to be placed to ensure local sustainability of the baseline assessment, development of the ICM plans and then monitoring and evaluation. This system needs to be aligned so that is consistent through time and receives the policy support required from national government.

B. Identification of global environmental benefits

The global benefits that will accrue to biodiversity conservation are substantial. The SCE project aims to conserve important coastal and terrestrial ecosystems including coral reefs, mangroves, small islands and their associated systems in its area of operation. The targets for coral reef and small island conservation through MPA zones and improved management outside of MPAs are significant and worthy of the investment. The link to the terrestrial ecosystems and watersheds makes the project area diverse, dynamic and complex. If this integrated system can be managed well, it will represent a significant step forward for integrated approaches to coastal and marine conservation.

C. How does the project fit within the context of the goals of GEF

The project fits well within the context of the goals of GEF in terms of supporting biodiversity conservation in tropical marine and seascape areas.

D. Regional Context

The SCE project has a regional context since it will work in Cuba with some exposure in the wider Caribbean area. This advanced project can help similar ICM type projects evolve solutions to tropical coastal area management in the Caribbean as appropriate and possibly other parts of the world.

E. Replicability of the project

It appears that the model being tested could be replicated in other regions of Cuba or other countries in the Caribbean. Some of the comments made above suggesting how to improve the project for technical feasibility, monitoring methods, assistance with MPAs and coordination with other similar projects could influence how easily the project can be replicated. Some adjustments along these lines might make the project easier to replicate.

F. Sustainability of the project

The question of sustainability is a large one with many unknowns since projects such as SCE are testing new waters and there are no proven solutions to some of the issues at hand. The integrated approach through ICM is certainly a good start to build sustainable institutions to carry on the work over time. Most comments in this review are intended to address sustainability with the hope that they will add to the long-term value of the project beyond its completion date. A big question is how to best institutionalize the processes for assessment, planning, implementation, monitoring and evaluation at the local government and community levels. Most of these functions will not necessarily be carried on by national or local government entities. One solution in this regard beyond just working with government, is to engage other local, private organizations who have a real interest in conservation and related issues. If there are viable NGOs and academic groups in the area, they should be part of the project implementation from the beginning so that they build up their expertise, staff and direction through experience. In this regard, the project should seriously consider sub-contracting major parts of field operations and not attempt to undertake it all through project staff. Project staff may be more efficient during the project start and life, but once they are gone, the institutionalization will tend to fade away. Engaging NGOs and academic partners, will tend to solve this problem. The other solution is to create 'systems' for information management, ICM and MPA evaluation and reporting, etc. so that these systems become fully ingrained into the managing organizations and take a life of their own.

3. SECONDARY ISSUES

A. Linkage to other focal areas

The project may have some positive spin-offs to other focal areas of GEF through its integrated approach to conservation of coral reefs, seascapes and watershed areas and all the benefits associated with conservation of these ecosystems. It is not foreseen that there will be any negative impacts on other focal areas.

B. Links to other programs and action plans

The project appears to be well aware of all other programs supported by GEF as well as most other donor projects in the Cuba and elsewhere.

C. Other beneficial or damaging environmental affects

The project will create numerous additional benefits to the extent that the coastal and marine ecosystems and species are conserved through limits on fishing efforts, improved management of tourism development, improved upland agricultural practices and through the implementation of MPAs. These benefits will be in the form of improved fish catches for food fish, possible ecotourism benefits through

more scuba diving and snorkeling opportunities among others. Damaging environmental affects will only pertain to those areas where illegal fishing continues using destructive methods or where uncontrolled shoreline development continues without regard to environmental impacts. Since the project aims to stop these practices, there should be a net gain for conservation.

D. Degree of involvement of stakeholders in the project

A key point is that the more local existing institutions can take on the role of the "project", the better the chance of continuation of the systems being put in place. The SCE proposal lists many potential stakeholders and government agencies. The project will create ICM coordination centers comprised of the various stakeholders. The main question is to know what agency really holds the strings to power and what agencies want to make a difference in conservation of the area. Thus, the stakeholder analysis is quite important to know how to focus efforts to engage stakeholders and encourage change.

Also building on systems that are already in place and understood by stakeholders and institutions will make for smoother sailing. This may not be feasible in all cases, since the project needs to catalyze change, but finding that balance is essential. Going with what is in place, if it is basically good, will be much easier.

E. Capacity building aspects

Capacity building aspects of the project are dealt with in discussions above and seem to be fully addressed in the proposal.

F. Innovativeness of the project

The project is innovative in trying to test an integrated strategy that could promote much improved conservation of a large area if the institutional mechanisms proposed work out. Yet, the project proposal needs to be more transparent how these mechanisms will work and how they are organized. Some graphic designs will help explain this aspect of the proposal and show the linkages of the institutions to the environments being managed. The project could bring in the concept of benchmarks for management that might even lead to some kind of certification for management groups.

4. COMMENTS ON PROJECT OUTPUTS/ACTIVITIES

Output 1.1: ICM Authority to coordinate the planning…within the SCE

This output could benefit from a set of ICM benchmarks to give more guidance to the institutions involved. Because the variety of resources and areas to be managed is quite diverse, specific benchmarks for management for MPA and area outside of MPA and other protected areas will help guide the institutional development. The benchmarks can be more institutional and governance focused rather than environmental. References are given elsewhere for this.

Activity 1.1.2: Development of an information system for the SCE

There are tested database models that the project could benefit from. One is the "municipal coastal database" which is quite a complete cross section of information management designed for local governments implementing ICM. This is available through the website: www.oneocean.org of the Coastal Resource Management Project in Philippines. Another is the MPA Coast and Reef Database available through the website: www.coast.ph. This database is better applied to small marine protected areas so that each zone within the larger SCE could have a separate set of data to track management.

Activity 1.2.1: Establishment and operation of the CBC-ICM Network

Capacity building for these centers will need extensive training. Some training materials that are already packaged and ready for use, albeit in English, are available through the website: www.oneocean.org. A series of training courses were developed to support ICM in the Philippines that include all aspects of ICM and MPA management.

Output 1.3: Lessons learned on ICM …

I suggest that lessons being learned could be compared with other similar projects. A recent special issue of the Ocean and Coastal Management Journal is focused on the sustainability of ICM in Indonesia and Philippines. The papers in this issue will be helpful in analyzing the sustainability of the SCE ICM processes and results.

Output 1.4: Institutional, policy and legal frameworks in place…

I suggest that you refer to the series of guidebooks titled: "Philippine Coastal Management Guidebook Series" to assist with institutional development legal frameworks that have been tested over time.

Activities 1.4.2 and 1.4.3: Sustainable Financing

Experience in other countries has shown that mechanisms that collect and manage funds locally tend to be more effective and tend to build incentives for local stakeholders. Collecting user fees that are tied to particular site visits is a good means for engaging local stakeholders who are involved in protecting and managing the sites. Examples of how this has worked in the Philippines are elaborated in various publications on MPAs posted on the two websites noted above.

Outcome 2: The tourism sector develops …

A good reference on how to guide the tourism sector is the book: "Sustainable Coastal Tourism Handbook for the Philippines". This is available on the website: www.oneocean.org. This book highlights the important of shoreline management and talks about how to engage tourism stakeholders, from small communities, to large hotels, in the process of planning and assisting with conservation.

Outcome 3: Sustainable fisheries are practiced within the SCE

Several points worth making in this section follow:

- Be careful not to reward illegal fishers with alternative livelihoods, this can backfire and inadvertently encourage more illegal fishing
- There is no easy replacement for coastal law enforcement to curb serious offenses of illegal fishing, effective coastal law enforcement must be pursued as needed
- Baseline assessments need to be fairly simple and easy to replicate using local technology, otherwise monitoring will lapse and the value of showing trends based on the baseline will not occur
- Fishery reserves (no-take areas) should be inside of core protected areas and not different to simplify management
- It is important to feedback baseline assessments and trends to fishers and other resource users in a timely manner to keep their interest and so they can learn; their participation in the assessments is preferable
- It is probably best to set up smaller (less than 10 km^2) closed areas but to make them permanent. Stakeholder involvement will be essential to get buy in of closed area boundaries and locations, and for their ultimate success.

- Innovative coastal law enforcement is being experimented with in the Philippines. Checking on how these models might be applicable in Cuba might be useful. References are as above and located on the website: www.oneocean.org
- The various livelihood projects for fishers and involving aquaculture seem appropriate but one caveat is that these are all experimental and could take considerable resources and time to operate successfully. It might be best to focus on only one or two projects and make sure that they succeed. Most such projects tend to fail once the main project ends.

Outcome 4: The declining sugar cane industry transitions…

This outcome and its associated activities is clearly important to the long term sustainability of the area and to minimize degradation of marine water quality. Yet it could easily be an entire project in itself. The key in this area will be incentives to guide development that will mostly be outside of the realm of the project to control. As Cuba looks to promote new forms of agriculture and to encourage new forms of investment, other than strictly government controlled operations, incentives and good guidelines will be key to minimize problems from land use.

5. SUMMARY AND FINAL POINTS

Overall, the SCE project has many positive aspects and is extremely well designed and should be funded to move ahead with its needed interventions to improve the management and protection of the important SCE area. Comments in this review are mostly suggestions for improvement of the proposal based on a long experience with coastal management in the Philippines and Southeast Asia. A summary of a few key points made above follows:

- The role of local governments can be highlighted more to ensure a local government base for the regulations being planned and implemented.
- The need for an integrated planning and implementation process at the local government level should be promoted so that a broader and more sustainable impact results.
- Consider adopting a variation of the 'CRM benchmark system' being applied in the Philippines as a framework to guide local and national government ICM
- Apply the MPA rating and evaluation system being developed in Philippines.
- Ensure that coastal and marine (reef, mangrove, estuarine, etc.) assessment methods are both standardized over time and that they can be utilized by local organizations with scientific guidance as needed to ensure a high level of participation in the process to build sustainability.
- Project management will benefit from developing partnerships with existing organizations that have proven track records.
- Analyze and test national policy vis-à-vis the need to support for ICM at the local level to make it effective.
- Be wary of using FADs or artificial reefs to manage fisheries.
- Use more graphics in the proposal for clarity and to make points about complex issues. This is especially needed in showing how the institutional framework will work and evolve for management. Also, showing the links from issues, their causes to management interventions can be added by good diagrams.
- Maps are powerful in helping understand geographical oriented sets of activities. Maps could be much better utilized to show what will be done where regarding what ecosystem or species in the proposal and in the resultant management of the project. Geographic information systems should be used as possible.

Since the first submission of these comments on August 24, 2005, the project team has responded to all the concerns and comments raised in this review. They have very thoroughly addressed each and every

comment to the full satisfaction of the reviewer. In fact, I am very impressed with the thought put into the responses and which makes me confident that the project team is very professional and dedicated to the full and successful implementation of the proposed project for SCE. If and when the project team has further questions for me as reviewer, I will be pleased to respond.

_____

Review by Alan White, Ph.D.
August 24, 2005
Submitted in final form: August 31, 2005
awhite@mozcom.com

Response to STAP Review

STAP Review Comment	Response to STAP Review
Thematic Scope of Project *….An initial impression is that the project may be attempting to cover too large an area and be trying to address a variety of issues beyond its capacity to be effective*"…. and "*as a result spend their first several years deciding what they can effectively accomplish…..*"*the proponents might want to home in on several high priority issues and make sure that these can be addressed during the project*". The reviewer presumes that major destructive forces of the marine environment are "*from fishing and over fishing; and the rapid development of tourism in vulnerable small-island, coralline & sand cay environments*"…and suggests that project designers might consider … "*to focus on and ensure that these two large and difficult problems are fully addressed through the project. Other, more land based and agriculture issues can still be part of the project but could be secondary issues so as to not detract from the resources needed to address the primary issues*"	With regard to the scope of activities, the reviewer rightly points out that by choosing to work in 3 sectors (tourism, fisheries, and agriculture / livestock), the project is ambitious. However, we believe that 1) the nature of the threats to biodiversity in the ESC require the project to address all three sectors, and 2) the focus of activities on specific strategies and in specific locales makes the cross-sectoral approach feasible. Please see Threats and Barriers Text - Paragraphs 25-29 Regarding the first point, while the reviewer notes various threats from tourism and fisheries, threats to coastal and marine ecosystems from agriculture related activities also are significant. In fact, if anything the threats from agriculture are the most time sensitive, as this sector is undergoing a period of great change (see below). Annex 6 discusses the relative importance of the three sectors, and demonstrates that agriculture related activities fall between tourism and fisheries in both the degree and range of impact that they have on biodiversity in the ESC. Additional details on the threats posed by agriculture related activities are provided in Matrix of Threats – Root Causes and Solutions – Annex 5 and in the threats analysis (paragraphs 25-29). With regard to the second point, although we concur that work across three sectors poses a challenge, the opportunity to work in the agriculture sector (as well as tourism and fisheries) cannot be missed. The Cuban sugar industry is at a critical juncture, and 23 sugar producing enterprises with 166,000 hectares of land in the ESC are currently searching for options for productive land management. By making a relatively small investment to provide these enterprises with models for sustainable, biodiversity-friendly production alternatives, and to provide guidance and information to central planners with responsibility for the conversion process, the project could have a profound effect on the management of this entire landscape (as well as other sugar cane lands being converted throughout the country). Conversely, if efforts to guide the sugar industry conversion process were to wait several years, it would almost certainly be much more difficult to redirect unsustainable activities that are already a fact on the ground. Finally, the project will use the Mid-Term Evaluation and other monitoring and oversight processes and benchmarks to measure the progress achieved in each sector during the course of implementation, with the understanding that the scope of activities in any given sector could be reduced if it is found that the project is "spread too thin"
Review Comment on Geographic Project Scope *"Because the project is quite broad in nature and addressing a whole range of issues spread over a wide geographical area, I encourage the implementers to try to be more specific in some cases and to give the main emphasis or focus of work for the project".*	In the long term the project seeks to target the entire SC ecosystem. As this is indeed a wide geographical area, the project strategy includes specific site location interventions, as well as targeting the enabling environment to ensure that over time strategies are adopted at that landscape scale. Details on the specific geographic scope of the project – the area of landscape and seascape to be covered by the project, the communities in which the project will work, etc. are provided in the Project Scope (Annex 2); at the end of each of the Sector Assessments (Annexes 7, 9 and 11); and in the GEF Tracking Tool (Annex 15, sections 13a, 13b and 14a). To make this clearer, however, additional text has been added to the Project Rationale section of the document (Section 6c)

Legal Issues *"The consequences of damage incurred from destructive and over fishing and inappropriate tourism development are highlighted in the proposal. It also appears that these issues are of major concern in Cuba and especially in the SCE. But, I am not aware of the legal arsenal available to deal with these issues*	With regard to the legal framework for overfishing and other fisheries issues, overfishing is regulated by the laws that established the "Fishery Consultative Commission". This commission, which includes among others scientific institutions, local representatives of fishermen, fishery directors and officers of CITMA, makes decisions and resolutions about fishery issues such as fishery quotas, status of stocks and response measures, regulation improvements, fishing gears and practices, fishery standards, and social, environmental and biodiversity issues. For example, one decision of the "Fishery Consultative Commission" was Resolution 58/2004 banning the use of set nets, and another was the gradual ban of bottom trawling, to be fully accomplished in 2007. Other legal tools include Resolution No. 1/97, which establishes important regulations for the protection and sustainable use of coral reefs; Resolution No. 31/1999, which established the authority for fisheries reserves; and Resolution 33/96 on Black Coral Extraction. Enforcement of fisheries laws and regulations is the responsibility of the Fishery Inspection Corps, directed by a National Fishery Inspection Office and operating through a network of provincial Offices with their respective Fishery Inspection Corps. Currently, the Fishery Inspection Corps generally face significant gaps in material resources for surveillance and enforcement (they do not have their own boats and instead have to borrow them from fishermen), and in appropriate communication equipment. Regulatory gaps also persist, so that for example the collection and transportation of coral is forbidden but its sale. Additional text has been added to the document (paragraphs 51-66) With regard to inappropriate tourism development, the following text was added to the project document (paragraphs 53-54): The Ministry of Tourism (MINTUR) is required to consider environmental impacts in its planning processes, through such laws as Resolution No. 77/95 on Environmental Impact Assessment and Decree No. 272/1999 for the Regime of Territorial Planning and Urbanism. Actions related to the protection of the environment and natural resources that MINTUR has carried out in the SCE include: the introduction of cleaner production practices in tourism facilities to conserve water and energy and reduce solid wastes; training courses for environmental auditors of the tourism system; development sustainability indicators for tourism development based on the Agreement of Declaration of the Caribbean as a Sustainable Tourism Area; and awards granted to tourism facilities for being free of CFCs (chlorofluorocarbons) and OES (ozone exhausting substances). Phase 2 of this project helped to strengthen environmental management of tourism activities by supporting Decree Law 202/2000 on "Management of the Coastal Zone", which established regulations for sustainable coastal development, such as requiring physical setbacks of tourism infrastructure away from coastal zones, and establishing different levels of protection across the beach profile. Despite MINTUR's responsibility for managing environmental impacts, neither the existing regional tourism development plans for the SCE, nor the Master Plan for the development of tourism in the cays, focuses on environmental issues. Furthermore, these processes are advisory in nature and there is little real participation by local stakeholders who are most aware of existing and potential environmental impacts. Finally, the existing

	Sustainable Tourism Indicators used by MINTUR do not incorporate biodiversity conservation.
Local Awareness The reviewer requests clarity on the extent that local communities are aware of problems, from a legal or simply a practical and personal perspective. He asks if different sector players know the sector related impacts, and points out that, for example, fishers often know when they break the law but if the laws are not very explicit or well advertised, they may be operating in relative innocence.	In general, fishermen, tourism operators, etc. are well aware of the impacts of the activities on the marine environment, including biodiversity resources. With some 44% of fishermen in the SCE belonging to state enterprises, and another 54% of fishermen belonging to the Sports Fisheries Federation, strong organizational mechanisms for communicating with fishermen exist. Moreover, Phase 2 of the project undertook a significant amount awareness building about biodiversity issues and the threats posed by human activities. For example, awareness raising was carried out at the national and local levels on the negative impacts on biodiversity of activities such as the construction of tourism infrastructure (hotels, roads, causeways, etc.), excess nutrient loads, overfishing, inappropriate fishing gears and practices, the importance of mangrove ecosystems for beach stability, etc. In addition, numerous courses and workshops were held for detailed and strategic planning for specific cays. As a result of these activities, some important changes were made in sectoral practices during the Phase 2 project, including: reduction in allowed room densities; setback of hotels behind dunes; reduced impacts on vegetation; introduction of new waste treatment system, and new guidelines for causeway construction. In addition, project awareness raising directly contributed to the enactment of Law 202/2000 for conservation of the coastal zone. This provides a basis on wwhich to build and , as noted in the project document (see Outputs 1.2, 2.1, 3.2, 3.4, 4.1 and 4.2), Phase 3 do so by focusing on awareness raising regarding proposed changes to productive sector activities and proposed changes to laws and regulations, and with more attention paid to resource users.
ICMA Management Structure. The Reviewer notes that the project is innovative in trying to test an integrated strategy that could promote improved conservation of a large area if the institutional mechanisms proposed work out. He requests more information and graphics on how these mechanisms will work and how they are organized and linkages to the environments being managed	Detailed descriptions of the institutional coordination mechanisms proposed by the project are provided in the Annex 1 describing the Integrated Coastal Management Authority (ICMA). This annex also includes graphic representations of the existing mechanisms and proposed structure of the ICMA which will be the fundamental institutional organizing mechanism with the ESC. The first diagram, which shows existing structure, also provides specific examples of local-level ICM entities and their management responsibility for specific environments within the ESC.
ICM Benchmarks The reviewer suggests the use of a similar coastal resource management benchmark system recently adopted by local governments in the Philippines. This is a relatively simple and yet robust by which local governments and national government can set targets and measure advances in the development of ICM within local governments around the country. The CRM benchmark system can be adjusted and adopted to make larger project wide interventions more consistent and to help to institutionalize the project objectives within the local	The project team agrees that a benchmark system for ICM mechanisms would be highly useful. Reference to this has been made in the document under Activity 1.1.1, – Paragraph 94 and the following text has been added to the annex on ICMA: "To support the effective operations of the various ICM mechanisms, particularly at the local level, the project will consider implementing an integrated coastal management benchmark system, based on models that have been successfully implemented in other countries. This benchmark system would be a relatively simple and yet robust system by which local and provincial governments and national government entities can set targets and measure advances in the development of ICM processes, including adequate benchmarks to ensure that biodiversity conservation objectives are being met. The benchmark system can be adjusted and adopted to make larger project wide interventions more consistent and to help to

government system up to national level. .	institutionalize the project objectives within the local government system up to national level. If implemented, the benchmark system may also lead to certification for ICM entities that meet the designated benchmarks
Role of Local Governments. The Reviewer indicates that the local government role needs to be fully reflected in the Sabana Camaguey Ecosystem (SCE) proposal as most "community-based" projects of the 1980's in the Philippines have floundered unless they have been fully supported and endorsed by their respective local governments. He indicates that "*projects too heavily controlled by the national government (including national marine protected areas) have also failed in many areas because of poor or unenthusiastic participation of the communities or local governments*". He also indicates that in the Philippines, a factor contributing to the increasing awareness on CRM and ICM is that many local municipal and city governments are engaged in the planning for and management of their coastal areas and resources. He points out that this scale of management requires much technical assistance to make it viable and that although local stakeholder communities are important in the management process, communities operate under the laws of the local government, and the only organized and sustained enforcement, registration and licensing for small-scale fisheries, is through the local government (municipality or city).	The project team agrees completely with the reviewer on the importance of local level participation and direction in the project. By operationalizing the Integrated Coastal Management Authority (ICMA) for the SCE, the project is putting a very strong emphasis on empowering and involving local communities and authorities in management and conservation of coastal resources. ICMA is a bottom-up system that is primarily composed of and dependent on local institutions and entities. Furthermore, ICMA uses local structures for actual implementation of management activities. The description of ICMA (Annex 1) includes a diagram that shows how existing ICMA structures within the SCE are all locally-based, including several municipal entities as well as site-specific entities. In fact, ICMA is specifically designed to abide by the "Principle of Subsidiarity", wherein actions are taken at the lowest local and organizational level whenever feasible and convenient. For this reason, the municipalities and local ICM coalitions within the SCE are eager to participate in the implementation of ICM mechanisms and instrument during Phase 3. The integral role of local governments and other institutions will not be new to the project, but rather will build on the intensive local participation in Phases 1 and 2, including, for example, the 5 municipalities that formally established and implemented ICM mechanisms for management of resources and the 12 communities assessments of public priorities for resource management out, as well as awareness raising activities (such as "Public Debates on Biodiversity in SCE"). It is also worth noting, however, that the organizational model for the Cuban government is one of vertical integration and coordination, so that almost all Ministries have representations or delegations at the provincial and municipal levels. Thus, although communities operate under the authority of their local governments, they also act within the framework of national policies, and frequently with the close cooperation and involvement of local offices of national institutions.
Institutional Sustainability The reviewer raises the question of how best to institutionalize the processes for assessment, planning, implementation, monitoring and evaluation at the local government and community levels. He suggests in addition to working with governments, that local & private organizations with real interest in conservation and related issues be engaged. He suggests that viable NGOs and academic groups in the area be part of the project implementation from the beginning so that they build up their expertise, staff and direction through experience and that the project	The project will involve the significant participation of numerous stakeholders, from within and outside of Government institutions. A detailed Stakeholder Involvement Plan has been included (Section IV, Part IV), which details the roles and responsibilities of all of the major participants, including six primary NGO partners and five academic institutions or institutes. This section details the participation of NGO and academic partners in both the PDF-B design phase and the upcoming project implementation phase. However, it is important to note that the project will not depend on these groups as the main vehicles for ensuring long-term continuation of relevant activities, for several reasons. First, the Government of Cuba has demonstrated a long-term commitment to the implementation of biodiversity conservation activities in the productive sectors and integrated coastal management by government agencies themselves. Unlike most GEF partner countries, Cuba has a firm policy of paying for the participation of ALL project "staff", who in fact remains as employees of their respective ministries during and after projects are

should consider sub-contracting major parts of field operations and not attempt to undertake it all through project staff. He indicates that although project staff may be more efficient during the project start and life, once they are gone, the institutionalization will tend to fade away. Engaging NGOs and academic partners will tend to solve this problem. The other solution he puts forward for is **Information Systems** for information management, ICM and MPA evaluation and reporting, etc. so that these systems become fully ingrained into the managing organizations and take a life of their own. He provides a reference to one as an example	implemented. Thus, staff will not be "gone" because in fact they will be continuing in their same positions. Secondly, ICMA is not a new structure but rather has been designed to become part of the structure of the National Watershed Council (CNCH), an inter-ministerial body with a long and successful track record, which will ensure that ICM processes and oversight in the ESC continue after the project ends. We entirely agree that information management systems that are accessible and utilized for ICM and other management purposes are a critical tool for ensuring sustainability. Paragraph 60 Activity 1.1.2 – for the creation of the Environmental Information System for the Sabana Camaguey Ecosystem (SIAESC) – is in fact specifically designed for this purpose. Furthermore, the sustainable financing mechanisms being established under Outputs 1.4 and 2.4 are intended in part to provide long-term financial support for both ICMA and the SIAESC.
Policy Framework The reviewer indicates that the need for improved national policy is not fully addressed in the project and notes that "*The management of the protected areas within the SCE needs to be part of the evolving policy of integrated coastal management (and fisheries) so that it is part of whole management process. The national government can benefit ICM policies that are beginning to integrate fisheries and tourism management from this process for application in other areas in Cub*a.	Substantial additional text on the existing national policy framework, and the expected changes to that framework due to the project, has been added to the document (Part I, Section 3). This text analyzes the policy framework for general development planning and environmental management, and assesses these issues for each of the three productive sectors targeted by the project. Replication of the ICM policies and processes developed by the project in other areas of Cuba is an expected benefit of the project, as noted in the section on Replicability (Paragraphs 161-164). However, ensuring replication of ICM processes at other sites (outside of the ESC) in Cuba is not within the scope of the proposed project. The project will work to create and/or strengthen national policies to support ICM processes necessary to remove barriers to ICM in the Sabana Camaguey Ecosystem, and these policy changes will benefit other potential ICM initiatives in Cuba, but this replication will not be measured as an indicator of project success.
Agriculture Sector The reviewer notes that the outcome related to this sector is clearly important to the long term sustainability of the area and to minimize degradation of marine water quality but could be an entire project in itself. He indicates that the key in this area will be incentives to guide development that will mostly be outside of the realm of the project to control. He suggests that as *Cuba looks to promote new forms of agriculture and to encourage new forms of investment, other than strictly government controlled operations, incentives and good guidelines will be key to minimize problems from land*	We agree with the reviewer that both good incentives and good guidelines will be necessary to promote sustainable agriculture. The project design does include a strong emphasis on guidelines, planning and capacity building for the agriculture sector under Text – Paragraph 136 Outputs 4.1 and 4.2, as well as integration of agriculture sector planning within a larger ecosystem-level planning framework spearheaded by ICMA. Furthermore, the project will benefit from lessons learned from the GEF Country Program Partnership focused on land degradation, which will develop extensive guidelines for sustainable land management in a variety of ecological and socio-economic conditions. With regard to incentives, in fact many of these will fall within the area of responsibility of the agencies implementing the project, in this case the Ministries of Sugar and of Agriculture. Because of the nature of the socialist economic structure in Cuba, agricultural production and markets, including prices, incentives, marketing and distribution, production targets, etc. , remain largely centrally planned and controlled. As a result, if

use.	MINAZ and MINAGRI support incentives that will enable sustainable, biodiversity-friendly agriculture to be viable, the project will perhaps have more "control" over its agricultural activities than is possible in most countries. Thus, if the project is successful in establishing agreements between MINAZ on the one hand and MINTUR (Ministry of Tourism) on the other with regard to selling sustainable agriculture production to hotels to meet demand from tourists (Paragraph 137 activity 4.2.3), the centralized decision making structure of the Cuban economic sector will in fact be of great benefit in creating an effective market.
Fisheries Sector a. **Closed Areas.** The reviewer indicates that it is probably best to set up smaller (less than 10 km2) closed areas but to make them permanent. He also states that stakeholder involvement will be essential to get buy in of closed area boundaries and locations, and for their ultimate success.	The team agrees completely that stakeholder input is important, and it is considered essential to work with local communities in establishing and maintaining closed areas. It is worth noting, however, that surveillance of a closed area is also an important consideration (as described in Activity 3.2.3). As for the size of closed areas, the project team will assess this issue further in the first months of implementation. Whatever size closed areas are eventually chosen, the project will monitor the success of these experiments closely, and change them if necessary as the project continues. It is worth noting, however, that small MPAs are considered of limited utility for mobile fish species due to their dispersal capability.
b. Fishery Reserves (No-Take Areas) Another key point about coral reef and fisheries management is that true no-take zones are essential for the reef ecosystem and its associated fisheries to recover to a relatively natural state. It has been shown in various studies that reef fish abundance, diversity and biomass recover quickly inside no-take or 'sanctuary' zones within MPAs. It has also been shown that fisheries outside of no-take marine reserves tend to recover to some extent from a spill-over effect and from limitations on fishing methods in the same area. The background information for the proposal is not so clear on the actual presence of no-take sanctuaries within the SCE although the use of FADs is indicated as a fishery management tool.	The following text is taken from Annex 9 – Section 4 of the Fisheries Sector Assessment. "No-take areas will be proposed and approved during the project, based on the results of relevant assessments of marine ecosystems and fisheries stock conditions. As noted in the project logical framework, the total size of the eventual no-take area is estimated at 90,000 ha, based on UNESCO guidelines of 12% of total fishing area" In addition, additional text explaining the current state of no-take areas in the ESC has been added to the text of the main document (Activity 3.2.2): Nationally, several categories of protected zones exist for the conservation of fisheries resources and marine biodiversity, the most important of which are Fishery Reserves and Marine Protected Areas. Fishery Reserves, manage by the MIP, are designed to support fish stock recovery as well as sustained management. Marine Protected Areas, managed by the National System of Protected Areas (CNAP), are designed primarily to protect priority ecosystems and species (e.g. manatees, flamingos), and frequently impose limitations on productive activities. Fishery Reserves are generally large areas, which might encompass several no-take areas (usually about 20% of the Fishery Reserve), as well as other waters that are part of the reserve but are not no-take areas. Within these latter areas, there would be restrictions on fishing practices, times, and equipment, and generally more regulation and enforcement than in other parts of the ocean. Within the No-Take Areas, which are focused on protected fish spawning and nursery sites, there would be no fishing allowed at all. There are several Fishery Reserves in Cuba already, but none in the ESC."
c. Marine Protected Areas The Reviewer describes how the Philippines is rapidly establishing and improving MPAs to help sustain the larval sources for target fishery and vulnerable marine species and points	The project team appreciates this input, and will follow up on the suggestion of the reviewer in seeking guidance on the design of marine protected areas. Although MPAs in Cuba are part of the National System of Protected Areas (CNAP), and do not fall within the precise scope of this project (which is mandated to focus on the productive landscape), the planned coordination between this project and the GEF supported Protected Areas project in Cuba

out that most MPAs include no-take zones or "sanctuary areas" for multiple reasons and the planning of these should be flexible and consider all the conservation concerns of a given area, community and local government. He refers to a newly established MPA rating and evaluation system in the Philippines and suggests the use of a similar system in SCE.	means that the project team (and its counterparts at CNAP) will benefit from guidance on MPA design and management, including the possibility of a rating and evaluation system. Text has been added to the main part of the document (– Paragraph 125 Activity 3.2.2) to reflect this.
d. Fisheries Livelihood Projects The reviewer indicates that the various livelihood projects for fishers and involving aquaculture seem appropriate but suggests that as these are experimental they could take considerable resources and time to operate successfully and it might be best to focus on only one or two projects and make sure that they succeed.	The project team feels, based on extensive analysis of the personnel, equipment, and other resources required, that it can implement three livelihoods projects (FADs, sponge cultivation, and blue crab cultivation), and that in fact this effort is relatively small and focused (combined these projects only include 100 fishermen). As for sustainability once the project ends, since the project design calls for replication activities during the 5-year period of the project, there is an increased likelihood that viable, self sustaining models will be created before the end of the project. Also, since there is no assurance that a new idea (or even an old one) applied in a new situation will succeed, it seems reasonable to accept attrition in ideas during the first phase. Given this, the mid-term evaluation and other review processes will allow the project to carry out adaptive management, and if necessary, to eliminate any pilot demonstrations that are not working to expectations, and thereby narrow the focus to the most viable projects.
e. Fishing Aggregating Devices - FADs The reviewer suggests that the project be wary of the use of Fish Aggregating Devices or FADs. He indicates that "*recent research indicates that FADs and artificial reefs operate in a similar way and generally add to the over fishing problem by simply aggregating fish and making fishing easier*." He indicates "*that although appealing to fishers because of efficiencies achieved, in an area where fishing effort is already too great, a FAD exacerbates the problem and allows the existing capacity to catch more fish for an initial period only. After the initial phase is over, fish catches tend to decline and a higher degree of over fishing comes into effect*".	There is of course a school of thought that criticizes any fish aggregating device. However, there are others that suggest that if a control of fishing effort is maintained, that FADs do not present a problem. Our belief is that the criticism of FADs is valid where there is no control on fishing effort, in which case fishers will aggregate around artificial reefs and can cause local depletion. To our knowledge however, in the Caribbean ecological context this is less a concern with FADs than with artificial reefs - in 1999, IFREMER and ICCAT held a joint workshop in Martinique promoting FADs as a sustainable fisheries production alternative in Caribbean waters. The proposed project will not employ FADs without controls on fishing effort, nor will they be located within closed areas (to increase their capacity to function as spawning reserves). Also, it is important to note that the project is attempting to redirect trawl and bottom fishers from depleted shelf resources, which are the most depleted in the SCE, while still offering them employment in catching relatively small numbers of offshore pelagic resources, which are relatively healthy (according to local fishermen and ICCAT surveys). Currently, inshore fishermen have to compete with large industrial seiners and longliners for offshore pelagic resources. Finally, only 1 baitboat will be deployed for each FAD, which limits the risk of over-exploitation.
f. Other Fisheries Issues: The reviewer continues with the following specific points on fisheries: i. Not to reward illegal fishers with alternative livelihoods as it can encourage illegal fishing ii. Effective coastal law enforcement must be pursued as needed to curb	i. Agreed, text to clarify this has been added to the main text Activities (Outcome 3) ii. Activity 3.2.3 is focused entirely on fisheries enforcement iii. Agreed; the project team has strong experience in using locally appropriate technologies and strategies for baseline assessment and monitoring based on experiences from Phases I and II. The Environmental Information System for the ESC (SIAESC) is designed to do provide feedback of assessment to relevant stakeholders

serious offenses of illegal fishing, iii. Keep baseline assessments fairly simple and easy to replicate using local technology, and feedback baseline assessments and trends to fishers and other resource users in a timely manner to keep their interest and so they can learn; their participation in the assessments is preferable **iv.** Fishery reserves (no-take areas) should be inside of core protected areas and not different to simplify management	iv. Fishery reserves have fish stock recovery and maintenance objectives, for that reason, although desirable, they have not necessarily been included within MPAs, which are devoted to biodiversity and ecosystem function protection purposes. Fishery reserves may be highly suitable or necessary in locations that are not eligible for MPA designation. Nevertheless, the project will endeavour where possible to promote the siting of fishery reserves within MPAs for greater effectiveness of protection and enforcement.
Key Stakeholders The Reviewer notes the potential stakeholders and government agencies listed and the ICM coordination centers comprised of the various stakeholders and asks:… *"what agency really holds the strings to power and what agencies want to make a difference in conservation of the area …* and indicates that " *the stakeholder analysis is quite important to know how to focus efforts to engage stakeholders and encourage change and . "that stakeholder involvement is essential and to fully address the problems of illegal and over fishing, stakeholders to the smallest community must be involved and feel some benefit from the project"*	A detailed Stakeholder Involvement Plan has been added as Section IV – Part 3of the document, which details the roles and responsibilities of all of the major participants. This section details how the actual implementation of the project, unlike most traditional conservation projects, will actually be the responsibility of both conservation oriented institutions (e.g. CITMA) and productive sector institutions (Ministries of Tourism, Fisheries, Sugar, and Agriculture. It also explains how these Ministries have positive incentives to participate in mainstreaming biodiversity conservation into their activities. With regard to community or individual participation, the project is designed to work very closely with organized community entities through the ICMA process (the ICMA annex discusses existing community entities that already participate). In addition, the Stakeholder Involvement Plan details how individual and enterprise level producers are integrated into the activities designed for each of the productive sectors.
Sustainable Financing The reviewer notes that *"experience in other countries has shown that mechanisms that collect and manage funds locally tend to be more effective and tend to build incentives for local stakeholders. Collecting user fees that are tied to particular site visits is a good means for engaging local stakeholders who are involved in protecting and managing the sites"*.	The project is designed to collect taxes and fees at the local level (primarily in the tourism and fisheries sectors), and to develop the legal and regulatory framework to allow for these funds to be managed and distributed within these same localities. The description of Output 1.4, as well as the Tourism Pilot Projects Annex 8 – Table 3, provides some details on specific taxes and fees that have already been identified as potential mechanisms. However, the project team appreciates the suggestion of the reviewer for additional resources to explore in this area and will consult the examples cited by the reviewer in the two websites provided.
Indicators The reviewer indicates that Phases I and II should provide ample baseline information to base the targets and indicators for Phase III but indicates that a summary of the indicators is lacking from the proposal and suggests that baseline data for the coastal and marine environment and trends, could	The baseline data on biophysical conditions in the ESC that was collected during Phases I and II of the project was extensively relied on in order to formulate the targets for Phase III. All of the biophysical indicators shown in the project's Logical Framework (Section II, Part II) including those with percentage change targets, have baseline values stated, so that targets show a meaningful and measurable change over the course of the project. Most of these baseline values were collected during Phase 2 (and some were updated during the development of this proposal). Thus, the following indicators that appear in the logical framework are all based on data collected during

make the proposal more directed, help in setting of targets that are realistic, and give evidence for actions that are being proposed. He suggests it be summarized and shown in tables and graphs in the introduction to the proposal. Percent change targets are not very meaningful without being based in real data".	Phase 2: (i) Avg. coral cover of sea bottom; (ii)Total area of mangroves; (iii) Density of seagrass beds (shoots/m^2); (iv) Average size of targeted fish (parrotfish, snappers, groupers); (v) Number of incidents of illegal fish catches; (vi) Health of seagrass beds (shoots/m^2) in specific locales; (v) Increase in fish biomass (grams/m^2) in specific locales; (vi) Decrease of Total Fishing Mortality (Z) per year for key finfish species, (vii) Decrease in organic contaminant loads, measured in Nitrogen (NT), Potassium (PT), and Biological Oxygen Demand (DBOsed), from converted sugar cane lands to inshore marine areas and reef areas . A summary of the indicators has also been added to the text (Part II, Section 8). However, tables and graphs were not added to this section, as this does not comply with GEF proposal formats. This information is available in the Logical Framework (Section II, Part II), as well as in the GEF Tracking Tool (Annex 15)
Monitoring Processes The reviewer recommends that methods to be used for monitoring the coastal and marine environment should be specified and that these should be both scientifically rigorous as well as applicable for community and/or volunteer groups to apply with scientific guidance as needed so as to ensure a high level of participation in the process to build sustainability	A network of marine and terrestrial monitoring sites encompassing the whole SCE was elaborated during Phase 2, with the participation of national and local specialists and some local environmental and economic sector representatives. This network was elaborated according to a threat and prioritization analysis done by the participants in numerous workshops. The network has a classification of three kinds of monitoring sites with regard to priority (high priority, significant priority, necessary). The monitoring stations and staff established during Phase 2 are now financed by the government (salaries, infrastructure, maintenance, fuel and some equipment). During Phase 2 of the project, approximately 20 Biodiversity Monitoring Protocols (detailed operating instructions) to ensure consistency and replicability of results were elaborated and implemented. In the elaboration of these protocols, both national and local specialists participated, and local researchers and technicians were trained in the protocols by Cuban and international experts. Phase 2 contributed significantly to strengthening local capacities for monitoring and research relevant to management, and now there is a close collaboration between local and national specialists and experts. Monitoring efforts will make use of community participation. For example, tourist dive guides will implement an early warning system about coral reef conditions at dive sites and neighbouring reefs, reporting on problems such as breakages, anchor damage, boat groundings, trash, sediment suspension by dive fins, etc.). These guides will work under the direction of specialists at the local Monitoring Laboratories created by the project, who will collect, analyze and disseminate the data. Additional details on monitoring protocols, including specific protocols for diverse marine monitoring efforts, are provided in the monitoring and evaluation text (Section I, Part IV).
Lesson Exchanges The Reviewer provides several references to projects and websites that would be useful for the project: - ICM – Lessons Learned - Capacity building packages for the	The project team appreciates this input, and will follow up on the suggestion of the reviewer for: (i) seeking other experiences on lessons learned for ICM in other locales; (ii) seeking other models for capacity building and training courses related to ICM and MPA management (iii) referring to examples in the Philippines that show that sustaining factors have been the full participation of the local authorities and community groups including

CBC-ICM Network centres - Monitoring Processes - Role of Local Governments - Institutional, policy and legal frameworks - How to guide the tourism sector - Innovative coastal law enforcement	fishers and tourism stakeholders where scuba diving and marine attractions are located. (iv) referring to the "Philippine Coastal Management Guidebook Series" to assist with institutional development legal frameworks that have been tested over time (v) referring to the "municipal coastal database" which is quite a complete cross section of information management designed for local governments implementing ICM; (vi) referring to the book: "Sustainable Coastal Tourism Handbook for the Philippines" on the website: www.oneocean.org that highlights the important of shoreline management and talks about how to engage tourism stakeholders, from small communities, to large hotels, in the process of planning and assisting with conservation and (vii) using the references provided on innovative coastal law enforcement experiences in the Philippines
General issues on project presentation and design The reviewer makes several suggestions on a. Maps "*could be much better utilized to show what will be done and ..would be very useful to guide the project implementation jurisdictions*." **b. Threats**…He indicates that while. "*Most threats to the coral reef and other marine ecosystems have been addressed" .. One thing missing though is a clear diagram that shows the primary issues and their contributing factors that the project intends to address…..*" **c. Replicability** He indicates that the model being tested could be replicated in other regions of Cuba or other countries in the Caribbean. And indicates that the comments on technical feasibility, monitoring methods, assistance with MPAs and coordination with other similar projects could influence how easily the project can be replicated **d. Use of Existing Structures.** The Reviewer recommends building on systems that are already in place and understood by stakeholders and institutions but indicates that this may not be feasible in all cases, since the project needs to catalyze change.	a. A new map (Annex 4, Map 1) has been produced that shows the provincial borders and locations of the municipalities which will be priority areas for implementation of ICM mechanisms. During Project implementation more detailed maps will be developed to guide implementation once GIS systems are fully installed. In addition, new text describing the target municipalities has been added to the Project Rationale text (paragraph 86), and details on these municipalities (including criteria for their selection) can be found in Project Scope (Annex 3). b. A matrix showing threats, root causes, barriers, proposed solutions, and relevant baseline programs and projects is provided in Annex 5. Please see Matrix of Threats, Root Causes and Solutions – Annex 5 c. Replication of project models is discussed in Part II, Section 12. In addition, the project team has made some adjustments as suggested by the reviewer to technical feasibility, monitoring methods, assistance with MPAs, and coordination with other projects (as noted in other parts of this response matrix), and will investigate and follow up on these recommendations further during implementation. d. Because this is the 3rd and final Phase of a long-term commitment by the GEF and the Government of Cuba to the Sabana Camaguey Ecosystem, there is an extensive range of structures and systems which the proposed project will build upon. Phases 1 and 2 established high levels of awareness and participation in conservation matters throughout the area, as well as capacity to use this knowledge and support to promote conservation goals. However, as the reviewer notes, the project does need to catalyze change. So, for example, while Phase II did succeed in establishing ICMA and in launching several local level ICM initiatives, a fully operational and region-wide ICMA remains to be created. Fortunately, ICMA and biodiversity conservation concepts both are now well understood throughout the area, and with local ICM initiatives in place and showing results, stakeholders throughout the ESC are aware of the positive social, economic and environmental benefits that will accrue from participation in the project. Furthermore as indicated above the ICMA will build on committees and planning structures that already exist at local level and governments.

C) GEF Secretariat and other Agencies' comments and IA/ExA response
(To be inserted as Appropriate)

Comment: At WPI, the full M&E plan has been delivered. Please include reference to Tracking Tools of Annex 15 in that section

Response: Reference to the GEF Tracking Tool has been included in the UNDP PRODOC (paragraph 180) and the Executive Summary (paragraph 29) as requested.

In addition to the above requested change, in order to strengthen the documentation (i) the cost effectiveness section of the UNDP Prodoc has been revised(Annex 14) and referenced in the Executive summary in paragraph 31 and (ii) a new map 1 has been included in the Annexes.