Improving the management and protection of marine biodiversity in the Gulf of Guacanayabo, Cuba

Part I: Project Information

GEF ID
10808

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Improving the management and protection of marine biodiversity in the Gulf of Guacanayabo, Cuba

Countries
Cuba

Agency(ies)
FAO

Other Executing Partner(s)
Ministry of Food Industry, (Fisheries Research Centre, Business Group of the Food Industry)

Executing Partner Type
Government

GEF Focal Area
Biodiversity

Taxonomy

Focal Areas, Biodiversity, Mainstreaming, Fisheries, Threatened Species, Species, Community Based Natural Resource Mngt, Protected Areas and Landscapes, Productive Seascapes, Mangroves, Biomes, Wetlands, Ecosystem-based Adaptation, Climate Change Adaptation, Climate Change, Community-based adaptation, Climate resilience, Livelihoods, Small Island Developing States, Coastal, International Waters, Pollution, Nutrient pollution from Wastewater, Nutrient pollution from all sectors except wastewater, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Convene multi-stakeholder alliances, Beneficiaries, Stakeholders, Local Communities, Type of Engagement, Participation, Information Dissemination, Partnership, Communications, Public Campaigns, Awareness Raising, Behavior change, Education, Gender results areas, Gender Equality, Access to benefits and services, Participation and leadership, Capacity Development, Gender Mainstreaming, Women groups, Sex-disaggregated indicators, Gender-sensitive indicators, Capacity, Knowledge and Research, Innovation, Enabling Activities, Knowledge Generation, Learning, Adaptive management, Theory of change, Knowledge Exchange

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 1

Submission Date

4/2/2021

Expected Implementation Start

9/1/2021

Expected Completion Date

5/1/2021

Duration

42In Months

Agency Fee($)

125,387.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
BD-1-1	Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors. A. Improve policies and decision-making, informed by biodiversity and ecosystem values. B. Manage biodiversity in landscapes and seascapes.	GET	1,319,863.00	6,983,715.00
		Total Project Cost($)	**1,319,863.00**	**6,983,715.00**

B. Project description summary

Project Objective

To contribute to the conservation of marine biodiversity through sustainable management of fisheries resources and other marine-coastal resources of the Gulf of Guacanayabo, incorporating the Ecosystem Approach to Fisheries and Aquaculture (EAFA).

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: Updating the knowledge bases for the management of sustainable fisheries and their key marine habitats, in the Gulf of Guacanayabo	Investment	Outcome 1.1. Improved and updated information on the state of targeted fish species and associated marine-coastal habitats in the Gulf of Guacanayabo. Indicator 1: Reference limits (target) for sustainable fisheries in the project areas established. Indicator 2: *State of 6 targeted fish species, updated* (abundance, distribution.) Outcome 1.2. Strengthening the enabling environment for the management of fishing species, with the promotion of an Ecosystem Approach to Fisheries and Aquaculture (EAFA).	Output 1.1.1. Technical recommendations to improve the conservation and sustainable use of marine-coastal resources prepared. Output 1.1.2. Critical coastal areas for the conservation of marine species of global environmental importance, identified. Output 1.2.1. Management plans for 6 targeted fish species in critical marine areas, designed in a participatory manner and with a gender perspective. Output 1.2.2. Fishing companies (3) apply practices to improve conservation and sustainable use of fishing species in the Gulf of Guacanayabo	GET	282,297.00	1,999,516.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Sustainable livelihoods through fisheries diversification and aquaculture with added value in their products.	Investment	Outcome 2.1. Sustainable productive alternatives have been increased and diversified, including more selective fisheries and low-impact marine aquaculture. Indicator BD-5.1: Number of fisheries that meet national or international third-party certification, incorporating BD considerations (baseline and target: 0 and 1)	Output 2.1.1. More selective and sustainable fishing alternatives, tested and implemented for species and traditional fisheries. Output 2.1.2. Marine aquaculture zones established, including Integrated Multitrophic Aquaculture, as an additional pillar to the sustainable management of fisheries resources. Output 2.1.3. Established mini-industries for aquaculture feed production, using by-products from the local fishing industry and other locally available raw materials. Output 2.1.4. New products developed that improve the artisanal fishing value chain (molluscs, crustaceans and fishes, with added value and links to the local fishing industry.	GET	691,786.00	3,474,160.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3: Knowledge management and dissemination of results for replication and national scaling.	Technical Assistance	Outcome 3.1. Strengthened Fisheries management with EAFA.	Output 3.1.1. Fisheries management system applying EAFA, agreed with national and local stakeholders. Output 3.1.2. EAFApractices incorporated into national fisheries and aquaculture management policies and systems. Output 3.1.3. Proposal of protocols for replication and national scaling, of alternative productive practices and the participatory governance system implemented in the Gulf of Guacanayabo. Output 3.1.4. Project communication strategy, with a gender perspective.	GET	128,250.00	716,787.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 4: Project Management	Technical Assistance	Outcome 4.1. Monitoring and Evaluation System Implemented.	Output 4.1.1. Project M&E system, with gender sensitive indicators established. Output 4.1.2. Terminal Evaluation	GET	97,550.00	460,695.00
				Sub Total ($)	**1,199,883.00**	**6,651,158.00**

Project Management Cost (PMC)

GET	119,980.00	332,557.00
Sub Total($)	**119,980.00**	**332,557.00**
Total Project Cost($)	**1,319,863.00**	**6,983,715.00**

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	National Office of State Inspection (ONIE).	In-kind	Recurrent expenditures	156,000.00
Recipient Country Government	Fisheries Research Centre (CIP) of the Ministry of Food Industry: Research Projects	In-kind	Recurrent expenditures	2,601,200.00
Recipient Country Government	EPISUR : Industrial Fishing Company of Santa Cruz del Sur	Grant	Investment mobilized	1,370,305.00
Recipient Country Government	Industrial Fishing Company of Manzanillo (EPIGRAN), Granma.	Grant	Investment mobilized	1,375,710.00
Recipient Country Government	PESCATUN Empresa pesquera de las tunas	Grant	Investment mobilized	980,500.00
GEF Agency	FAO	Grant	Investment mobilized	500,000.00
			Total Co-Financing($)	**6,983,715.00**

Describe how any "Investment Mobilized" was identified

The Ministry of Food Industry, together with the participating state-owned fishing companies, will mobilize public investment funds as grants to support the project conservation activities in the Gulf of Guacanayabo and to strengthen the sectorial regulatory framework for fisheries production in Cuba.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Cuba	Biodiversity	BD STAR Allocation	1,319,863	125,387	1,445,250.00
				Total Grant Resources($)	**1,319,863.00**	**125,387.00**	**1,445,250.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Cuba	Biodiversity	BD STAR Allocation	50,000	4,750	**54,750.00**
				Total Project Costs($)	**50,000.00**	**4,750.00**	**54,750.00**

Core Indicators

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	74,432.00		

Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
	6		

Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	0	0	0

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE

Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 8 Globally over-exploited fisheries moved to more sustainable levels

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
	1,025.00		

Fishery Details

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		20,125		
Male		23,360		
Total	0	43485	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Core Indicator 5: It includes the entire marine area, up to 3 m deep, from Cabo Cruz to the border with the Gulf of Ana Mar?a, and the area corresponding to the spawning aggregation crown off Cabo Cruz. It represents 10% of the total gulf fishing area (744,520 ha). This area will have fishing regulations, through a resolution that will be proposed to MINAL and its Fisheries Advisory and will be controlled by ONIE and the Directorate of Border Guard Troops. Core Indicator 8: The fishery being measured is pink shrimp (Farfantapenaeus notialis). This target will be reached through project actions, including the reduction of the pink shrimp catch quota by 20% act . Core Indicator 11: The Project beneficiaries consider the four Project components: training of government and municipal staff, knowledge management actions including women scientists, value chain activities (post-landing) where women have a strong role, not just the fishing actions which are indeed dominated by men. Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided. Aichi Goals Project Outputs Goal 1 1.1.1, 1.2.2 Goal 2 3.1.1, 3.1.2 Goal 4 1.2.1, 3.1.1, 3.1.2, 3.1.3, 2.1.1 Goal 6 1.2.1, 1.2.3, 2.1.1, Goal 11 1.1.2, 1.2.1, 2.1.2 Goal 19 1.1.1, 1.2.3, 2.1.1, 2.1.2, 2.1.3, 2.1.4, 3.1.3

Part II. Project Justification

1a. Project Description

1. 1. The project will promote biodiversity mainstreaming in seascapes surrounding key biodiversity areas (KBA) and a RAMSAR site in the Gulf of Gucanayabo. In this line, the project will also address the state of 6 targeted fish species.

2. **2. Fisheries are the most important root cause** for the decline in shrimp populations and thus such biomass reduction is already impacting upper links of the food web which include species of global importance that thrive in the Caribbean, some of which are included as target species in this project. Shrimp species spawn in outer oceanic waters and their early stages drift inward to the protected areas of Guacanayabo, where they grow and, as pre-adults migrate again to open waters. The fishing pressure on juvenile and pre-adult shrimp within the Gulf, along with the trawling fishery of adult shrimp, pose an important threat to the stability of these populations.

3. 3. All fishery management and alternative economic activities proposed by the project (i.e. improvement of fisheries-related population dynamics and status; low-impact aquaculture and value addition of fishery products) are part of an integrated strategy to significantly reduce the pressure upon ecologically important species such as shrimp, snapper and tarpons, among others. That is, making fisheries more sustainable and providing alternatives to the communities that depend on such fishery resources, are means to reduce the pressure on such vulnerable species, thus improving the ecological balance and the health of the biodiversity of Guacanayabo. The bio-ecological connectivity of this ecosystem with the Large Marine Ecosystem (LME) of the Caribbean, clearly determine that what happens within the Gulf has a repercussion on the ecological stability beyond.

    4. The project will also address the state of targeted **fish species**, as detailed below:

        1. *Megalops atlanticus*: Vulnerable. (Population decreasing)
        2. *Lutjanus analis:* Near Threatened. (Population decreasing)
        3. *Lutjanus synagris*: Near Threatened. (Population decreasing)
        4. *Mugil liza*: Near Threatened. (Data deficient)
        5. *Hypanus americanus*: Near Threatened. (Population decreasing)[1][1]

    5. Regarding the pink shrimp *Farfantapenaeus notialis*, FAO indicates its importance in the trophic-ecological relation with globally important fish species, which live and migrate from and to the Gulf of Mexico and the Caribbean Large Marine Ecosystem. *Farfantapenaeus notialis* sustains the most significant shrimp fishery of the Greater Antilles. It has a wide distribution, from the Eastern Atlantic, on the West African coast from Mauritania to Angola, through to the Western Atlantic from Cuba to the Virgin Islands, the Atlantic coast of Middle and South America, from Southern Mexico to Brazil (http://www.fao.org/fishery/species/3413/en). The species is trophically linked to a number of fish species of global importance, many of which are in the IUCN Red List, such as those of the genus *Lutjanidae* and *Epinephelus*, which in turn are important in the diet of critically endangered species, such as the lemon shark (*Negaprion brevisrostris*).

    6. **Shrimp fisheries** in the Gulf of Guacanayabo are linked to the trophic chain of many species: biajaiba, Creole snapper, ray, shad and sierra, considered carnivores, consume shrimp in their

different stages of life as a food base, in a range between 15 to 25%. The mullet (*herbivorous detritophagus*) is important in the feeding of shad in estuaries (20% stomach content). At ecosystem level, any improvement in shrimp populations will result in an increase in species of global environmental importance. On the other hand, unsustainable shrimp fisheries may affect all these species in their juvenile stages, due to the aggressive fishing system.

7. The **connectivity** between the insular platforms of South Cuba, and the Gulf of Guacanayabo Ecosystem (GGE) and the LME Caribbean, has been acknowledged in scientific publications[2][2].

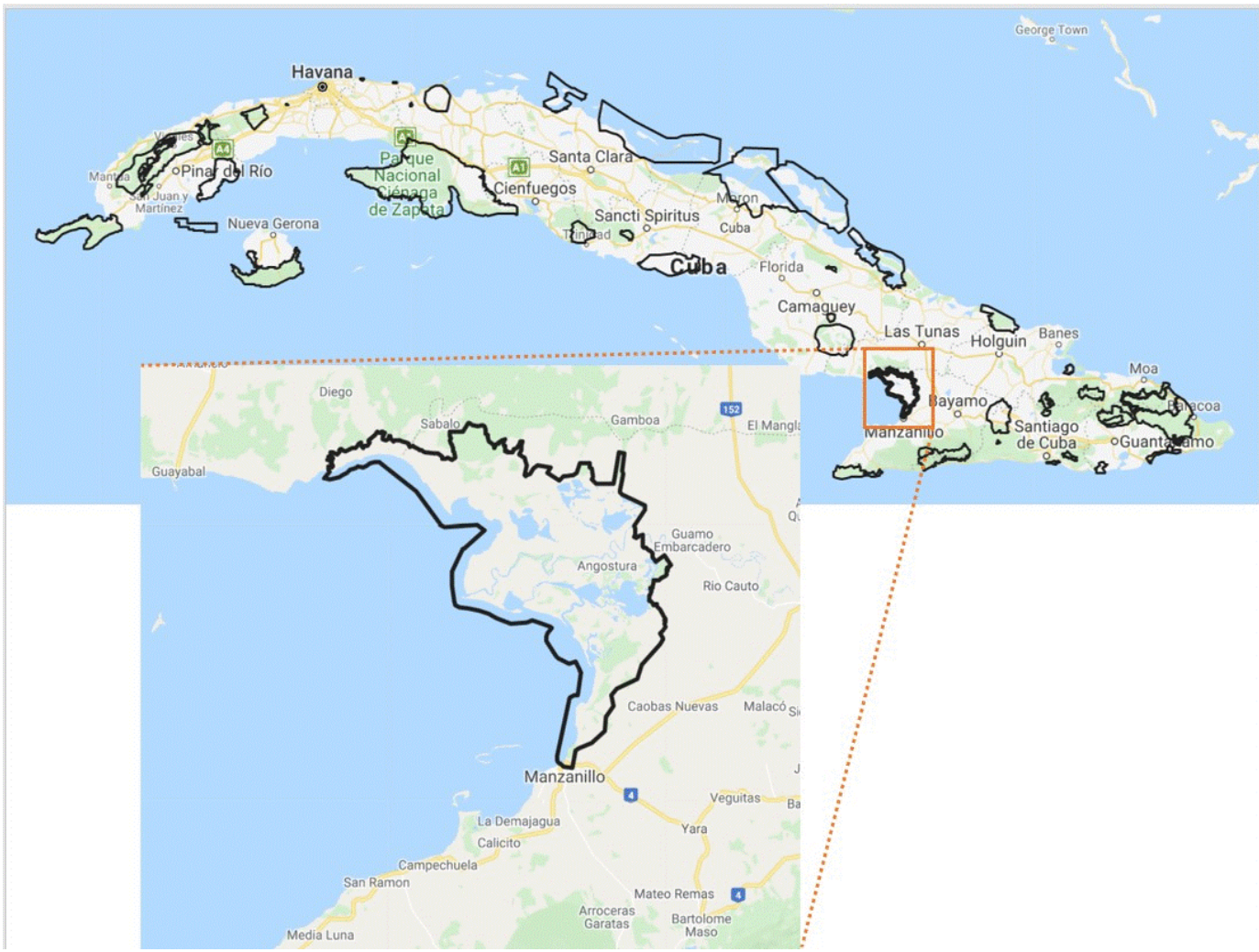
8. **Key Biodiversity Areas** (KBA): Map 1 illustrates the KBA Wetland Delta del Cauto ? located in the Gulf of Guacanayabo Ecosystem (GGE). Fisheries activities within the GGE have an impact on the Delta del Cauto (RAMSAR site #1236). In turn, this wetland is a major contributor to fisheries in the GGE, where the Cauto river flows out to the sea (https://rsis.ramsar.org/es/ris/1236?language=es#risv-section-overview). The Delta del Cauto provides nutrients through the Cauto River, fueling primary productivity, and indirectly sustaining the trophic web of the GGE[3][3].

9. The **Delta del Cauto wetland** (RAMSAR site) is a Key Biodiversity Area (KBA) located in Granma and Las Tunas provinces (47,836 ha. 20?34'N, 077?12'W), and includes two Protected Areas. The Wetland Delta del Cauto is an intricate system of estuaries, lagoons, marshes and swamps of singular beauty. It is also the largest delta in Cuba and one of the most important in the Caribbean. Its inaccessibility and difficulty of transit have kept anthropic effects to a minimum at the site. The local flora includes some of the best-preserved mangrove populations (four species) in Cuba, as well as several species of Copernicia. Several vulnerable and endangered animal species inhabit the site, among them the endemic Cuban parakeet (Aratinga euops), Cuban tree-duck (Dendrocygna arborea) and Birama anole (Anolis birama). This wetland is also considered a major contributor to the productiveness (fisheries) of the Gulf of Guacanayabo, where the Cauto river flows out to the sea (Ramsar site no.1236. Most recent RIS information: 2002. https://rsis.ramsar.org/es/ris/1236?language=es#risv-section-overview).

10. The Delta del Cauto is a food source for the fauna living in the Gulf of Guacanayabo. It has also a wide influence on fauna breeding and growth along the entire coastal strip, being the main contributor to fishing productivity in the GGE and the adjacent Gulf of Ana Mar?a.

11. The studies developed by the UNDP/GEF ID 3607 project *Application of a regional approach to the management of marine and coastal protected areas in Cuba's Southern Archipelagos Region*, closed in 2017, indicated that biodiversity and fisheries stocks have experienced severe declines in recent years, due to a combination of factors including overfishing, habitat degradation and modifications in the quantities and characteristics of hydrological inputs from the mainland. In 2021, these environmental problems are likely to continue: unsustainable management and failed protection of crucial areas for breeding, spawning and growth of fish and other marine fauna, and overpressures from production sectors in the adjoining seascapes and landscapes.

12. Map 1: Key Biodiversity Areas in Cuba and Wetland Delta del Cauto KBA



Source: Own elaboration Using FAO?s Earth Map Tool (Powered by Google Earth Engine) and information from http://www.keybiodiversityareas.org/

13. **Global Environmental Problem and root causes:**

14. **Overfishing** of globally important species causes low catches in the Gulf of Guacanayabo ecosystem (GGE), while non-fishing impacts affects the size of the catch. **Habitat degradation** has occurred in many coastal areas in recent decades. Freshwater runoff and nutrient levels are abnormally low because most major rivers have been dammed. Such practice has increased salinity in large areas of shallow water and brackish coastal lagoons, which are recruitment and nursery areas for most fish species. In addition, the GGE is highly vulnerable to **climate change**, given its position in a small island developing state (SIDS) located in the tropical region and the hurricane belt of the Atlantic Ocean. Climate change has aggravated the accumulated environmental problems and will continue to do so in the future, gradually becoming a limiting factor for sustainable development[4][4]. Fisheries resources are highly sensitive to climate change, as well as coral reefs, seagrass beds, and mangroves. Their vulnerability affect the structure and functioning of marine-coastal areas in the GGE and the

Cuban archipelago.[5][5],[6][6],[7][7] To date, these problems have not received comprehensive attention, and the protection and sustainable use of the GGE coastal marine resources has not been addressed.

15. **Fish species**: The 6 targeted fish species have been selected based on their sensitivity to ecological and fishing pressures - reflected on their population health - and a good indicator of the state and functioning of the GGE and KBA Delta del Cauto. Statistical data since 1980 on catch quotas, landing and fish stocks have been used to assess the structure and functioning of populations and communities in the GGE.
16. **Historical trend**: According to historical data of biological and fisheries statistics, disaggregated by species, the pink shrimp has been overexploited and its stock and catches have been declining in the GGE[8][8].
17. The white and pink shrimp fisheries in Cuba have shown a decreasing trend over the last four decades: from 7,000 tons/year in the 1980s to 700 tons/year in 2018. These shrimp species have been overfished and their habitats have been degraded. Since 2007 a dramatic drop in catches has been observed (see Figure 1 below). Moreover, white and pink shrimp are highly connected through the trophic chain with other species. More than 120 species have been identified as accompanying fauna of pink and white shrimps in the GGE: 87 fish species, 16 crustaceans, 12 mollusks, 1 sponge and 3 echinoderms (Font, 2002). Some of them are exposed to by-catch (Gim?nez-Hurtado, 2016).
18. The historical series of the total catches on the Cuban shelves (Fig. 1) and by groups of species (Fig. 2) confirm the above.

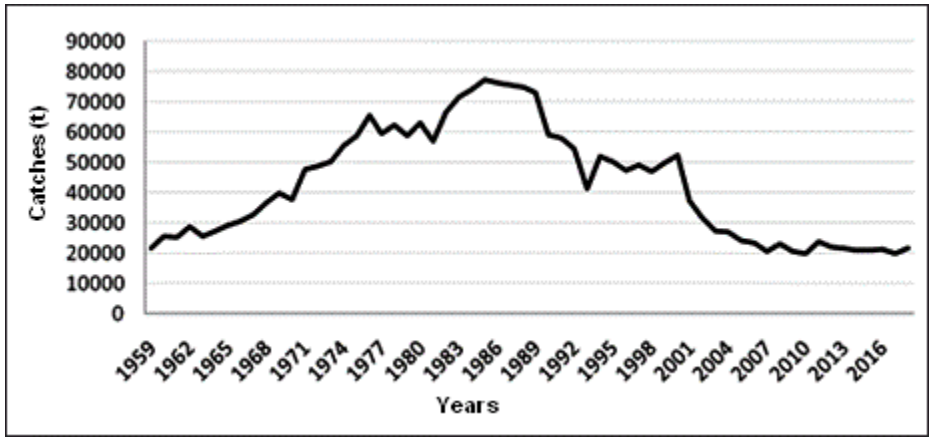


Fig. 1. Total Cuban shelf catches. Historical series 1959-2018[9][9].

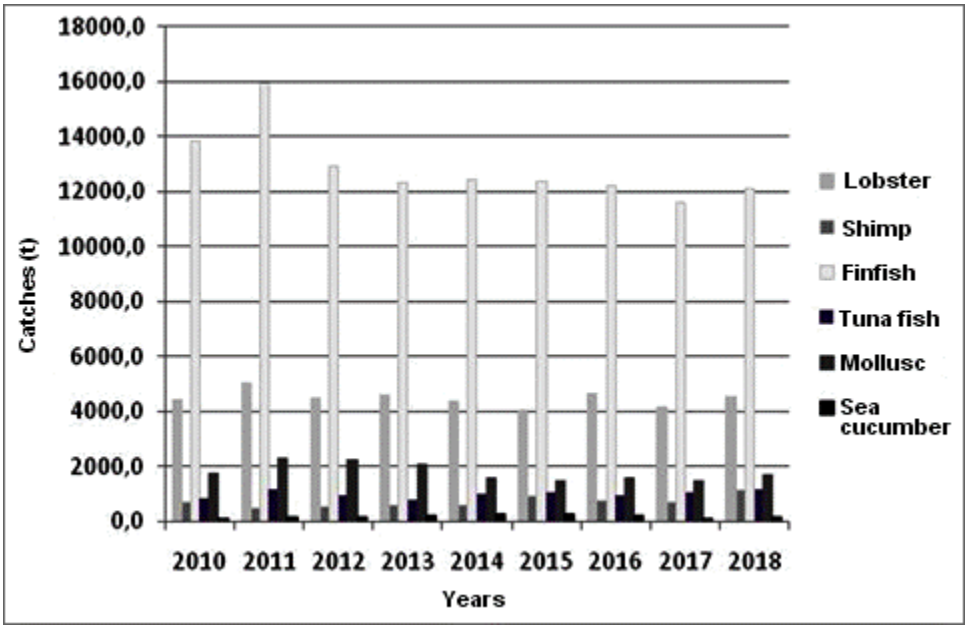


Fig. 2. Commercial Cuban shelf catches by group of species[10][10].

19. The time series reflecting the fishing effort in the Cuban shelf 1981-2018 (Fig. 3) shows a gradual decrease since the 1990s in the sea-days used for fishing operations. This has stabilised in the last ten years, toabout 63,000 sea-days, equivalent to 35% of what used to be in the 1980s.

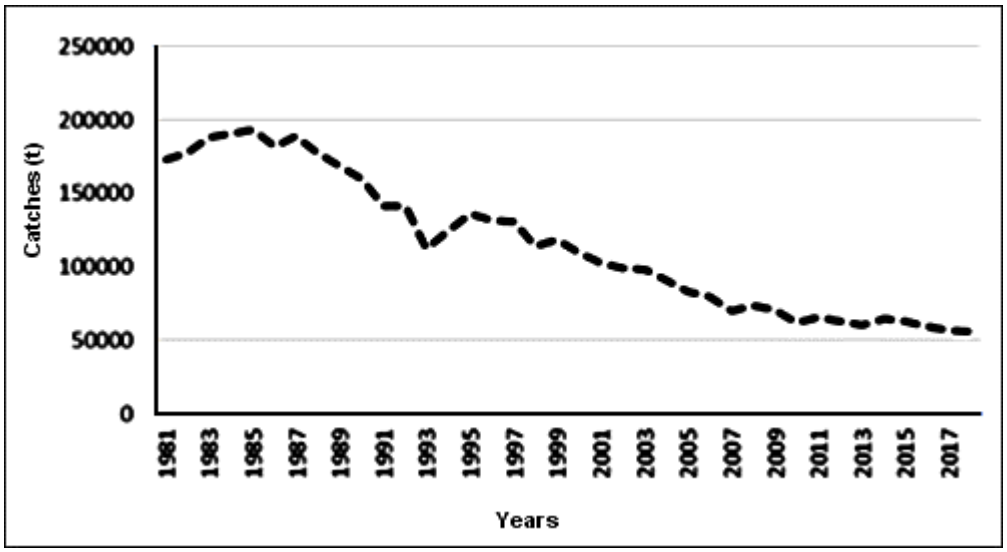


Fig. 3. Fishing effort in Cuban shelf (sea-days). Series 1981-2018[11][11].

20. The Gulf of Guacanayabo contributes approximately 28.6% of the fishing production of the Cuban shelf. In terms of the catch series (Fig. 4), it may be observed that from the maximum

of 33,000 t in the 1980s, an 18% decline in total landingshas occurred. It is well accepted that a change in the composition of marine fish communities and fishing landings has taken place in this area. In general, species with a higher trophic level, larger size and higher market value, have been gradually replaced by species with lower trophic levels, smaller and of less market value.[12][12]

21.

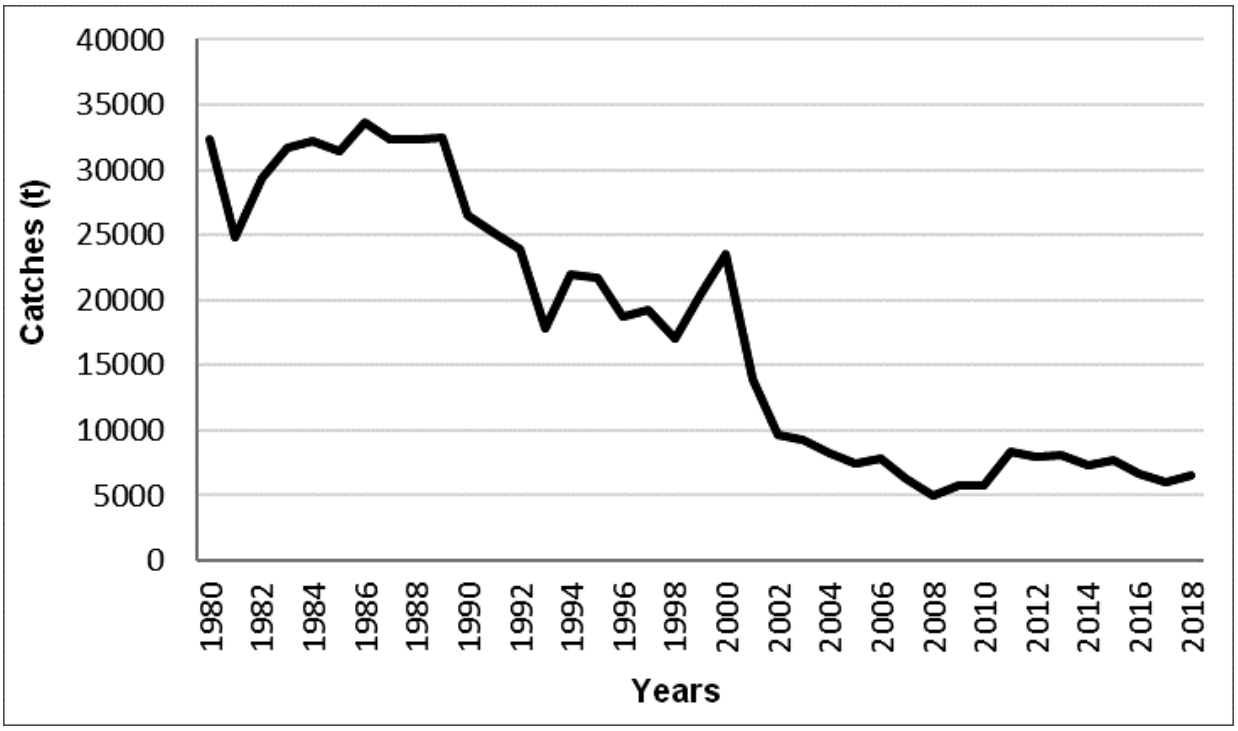


Fig. 4. Total catches in the Gulf of Guacanayabo 1980-2018[13][13].

22. More than 55% of the endemic species of the Caribbean coexist in this insular shelf. It also hosts some of the most abundant and best-preserved mangroves, seagrasses, and reefs in the region. This area shelters 979 species of marine fauna, among which 258 species of fish stand out, a rich biological fauna shared with Colombia, the United States of America, Costa Rica, Jamaica and other countries. This ecosystem is threatened by overfishing, mangrove clearing, damage to the environment by the use of aggressive fishing practices, reduced circulation of freshwater flows, and illegal capture and trade of protected species, which affect local economies due to the decrease in fishing resources. More recently, the existence of exotic species constitutes another potential threat to marine biodiversity.[14][14],[15][15]

23. For communities settled in the shores of the Gulf of Guacanayabo, the main sustenance is fishing-related activities. Population growth has also contributed to increased pressure on fisheries resources and environmental degradation in coastal areas, such as habitat alteration by human settlements, industrial development, agricultural development, and the damming of watercourses, among other factors.

24. To ensure an objective assessment of the marine resources of the Gulf of Guacanayabo, a group of marine key fish species has been identified. These species directly and indirectly affect the preservation of the biological diversity of the gulf, due to the natural role that they play within the food chain. These fish make good indicator species: not only have their populations declined in recent years, they are also a good indicator of ecological complexes, due to their regional connectivity, socio-cultural value in the localities and the impact of the fisheries of other species on the first phases of their life cycles.

25. **Species description**: The species selected as indicators are representative of the following ecological complexes:

26. **Coastal-estuarine** (pink shrimp - *Farfantepenaeusnotialis*; Lebranche mullet - *Mugil liza* and tarpon - *Magalopsatlanticus*). The majority of species in this complex, are fully to overexploited and subjected to intense fishing with poorly selected fishing gear. Some of them are poached. Lower levels of freshwater, due to damming, lead to insufficient nutrients for the proper functioning of marine-coastal ecosystems, including the mangrove system, an important breeding area for almost all species in the Gulf of Guacanayabo.

27. **Seibadal-coral** (*Lutjanussynagris*; lane snapper - *L. analis*; southern stingray ? *Hypanusamericanus,* coastal pelagic species inhabiting this complex). The largest volumes of fish caught in the Gulf of Guacanayabo are obtained from this complex. The vulnerability of the species varies from medium to very high and many of the populations have been declared overexploited.[16][16]

28. The impact that the shrimp fisheries have on the populations of other organisms (particularly in their juvenile phase, when they are caught up in trawls as bycatch when they could be fished by other fleets in their adult state) constitutes a global recurring problem.[17][17]

29. The fisheries of this resource generate negative impacts on the marine ecosystem, mainly those related to the alteration of the structure of the soft bottom community, which favours the loss of biological diversity.[18][18]

30. The Table 1 below summarises the status of the described species, in terms of their global environmental importance, the reduction of their catches in the period 1981-2018 and the IUCN Red List 2021 status.

Table 1: Project targeted species

Crustacean species	Species description	IUCN Red List 2021 status

Lutjanussynagris Lane snapper	Species representative of the seibadal-coral complex. Demersal species. Forms important spawning aggregations. The largest catch volumes in the Gulf of Guacanayabo are obtained during spawning migration, which peaks in June and July; the eggs and larvae are oceanic and have regional connectivity, especially with Jamaica and the Island of Hispaniola. Maximum catch 738.6 t (1984) 83% reduction in catches for 2018.	Near Threatened (Population decreasing)
Lutjanusanalis Mutton snapper	Species representative of the seibadal-coral complex. Demersal species. Forms important spawning aggregations. The snapper eggs and larvae, from the south-eastern region of Cuba, have connectivity with Jamaica and Hispaniola. It is one of the most important commercial species in Cuba. Maximum catch 222.6 t (1988) reduction of catches for 2018 of 55%.	Near Threatened (Population decreasing)
Megalops atlanticus Tarpon	Species representative of the coastal-estuarine complex, although it moves to the seibadal-coral complex for reproduction. Very slow-growing species (k = 0.07 year-1), longat first maturity (80 cm). Very high vulnerability to overfishing in the Gulf of Guacanayabo. It is a species restricted to the tropical and sub-tropical Atlantic. Maximum catch 59.6 t (1999) reduction of catches for 2018 of 92%.	Vulnerable (Population decreasing)
Mugil liza Lebranche mullet	Species representative of the coastal-estuarine complex. Neritic pelagic. It is an emblematic fish in the Gulf of Guacanayabo, of great local socio-cultural importance in Manzanillo. It makes migrations in the form of schools to feed along the coast. It is subject to the fishing intensity. It is distributed in the western Atlantic. Maximum catch 160 t (1987) reduction of catches for 2018 of 89%.	Near Threatened (Data deficient)

Hypanusamericanus Southern stingray	Species representative of the seibadal-coral complex in shallow water. Like all elasmobranchs, it has few offspring. Ovoviviparous species that is estimated with a progeny of 3-4 neonates. It has a high presence, especially of juveniles, in the shrimp by-catch of the shrimp trawl fisheries in the Gulf of Guacanayabo. The drastic decrease in populations of this species, due to fishing exploitation, is considered a severeproblem throughout its distribution area. Maximum catch 319.1 t (1990) reduction of catches for 2018 of 75%.	Near Threatened (Population decreasing)
Farfantepenaeus notialis Southern pink shrimp	Species representative of the coastal-estuarine complex. It is the main fishing objective in the Gulf of Guacanayabo. Trawl fisheries of this species have the most significant impact on the ecosystem, since it directly affects fishes of global environmental importance at various stages of their life cycle, as well as crustaceans, molluscs, echinoderms and aquatic vegetation, affecting the structure of the seabed and causing an imbalance in the entire ecosystem, resulting in loss of biological diversity. Maximum catch 1655 t (1987) reduction of catches for 2018 of 95%.	Population stable

Barriers that need to be addressed:

31. **Barrier 1: The unsustainable levels in fish production** are due to the following reasons:

a. Prevailing models of fishing practices that limit conservation and weaken the resilience of ecosystems.

b. In general, there is a production approach, predominantly characterised by the maximisation of immediate results from ongoing economic activities, with little attention to the effects on environmental sustainability. This has led to the exploitation of main fisheries resources to levels where sustainability is at risk.

c. Lost or wasted opportunities for productive diversification that would allow the release of concentrated pressure on a few species, while favouring the resilience and protection of habitats and their biodiversity.

d. There are no incentives to develop new products or add value to existing products in established value chains, which would allow generating greater profitability with the same or lesser volume of catches, with no additional fishing effort.

32. **Barrier 2. Limited knowledge of the modalities and practices for sustainable fisheries and aquaculture** due to:

a. Insufficient scientific information generated by research institutions that contribute to the sustainable management of fisheries resources,and limited technological capacity to transform that

knowledge into sustainable productive economic alternatives to reduce pressure on fisheries resources and increase economic options.This would also improve the quality of life of the population dependent on the Gulf of Guacanayabo ecosystem.

b. Stakeholders directly or indirectly linked to fishing activities have limited knowledge of more sustainable practices and modalities in fishing and aquaculture, and are unaware of the potential for new economic activities associated with these subsectors.

c. This lack of knowledge prevents them from jointly developing a comprehensive and long-term vision and agreeing on a strategic framework to make their fishing activities more sustainable, while protecting biodiversity and improving the resilience of ecosystems and communities.

33. **Barrier 3. Lack of institutional capacities and poor inter-institutional coordination**, in particular:

a. The authorities responsible for the regulation, monitoring and evaluation of fisheries management have limited technical capacities. There are deficiencies in inter-institutional management and no harmonization between the objectives and interests oriented to production and conservation. There are insufficient intersectoral mechanisms that can incorporate integrated fisheries management.

b. The fisheries sector is the main livelihood of local communities,butlacks a long-term vision and adequate means for planning and managingsustainable fisheries resources, to restore critical stocks, and to make rational use of goods and services derived from marine-coastal natural resources, within a framework that guarantees the preservation of biological diversity.

34. **Barrier 4. Limitations on the enabling framework**, in detail:

a. Insufficient up to date sectoral fisheries regulations to protect biodiversity.

b. There is a lack of legislative frameworks that establish budgetary allocations and multi-level inter-institutional coordination to regularly monitor the state of fisheries resources in the Gulf of Guacanayabo.

c. The Ecosystem Approach to Fisheries and Aquaculture isnot reflected in sectoral legislative frameworks, which limits adequate multisectoral planning of fisheries in the contextof territorial development.

d. Absence of a multi-stakeholder and multi-level governance system for systemic management of the fisheries resources of the Gulf of Guacanayabo.

The baseline scenario and any associated baseline projects

35. **Regulatory framework:** The Government of Cuba (GoC) has applied regulatory measures to: i) prohibiting fishing in areas located less than 1 mile away from the coastline ? considered as breeding areas ? and Satellite monitoring of fishing vessels through GPS controls, since 2004; ii) restricting the fishing effort (i.e. authorizing less vessels every year) since 2007; iii) increasing the closed days to protect the main recruitment areas in July-December, since 2007; iv) applying temporary/partial closed days in spawning and recruitment areas ? based on analysis during fishing seasons; v) augmenting the mesh opening of the fishing nets and including fish exclusion devices in shrimp nets to reduce by-catch since 2009; and vi) issuing yearly catch quotas - based on fish resources assessment since 2013. However, the State Inspection Office lacks a systemic approach in verifying the accomplishment of the fisheries management measures by fisheries enterprises, which is reflected on the fact that, despite such regulatory measures, white and pink shrimp stocks have not recovered.

36. There are national catch regulations on minimum sizes for most of the species living in the GGE and the Cuban archipelago[19][19]. These regulations require immediate and adequate revision for marine resources conservation, starting from the inclusion of the most up-to-date

available biological knowledge. In particular, there is a deficit of systemic biological information to conduct in-depth assessments of fish resources and their relationship with the ecosystem, particularly in a context of climate change and anthropogenic alterations in the ecosystem.

37. Significant steps have been taken in recent years to address environmental problems. Marine Protected Areas (MPAs) have been created and strengthened; special fisheries management areas have been established; and fishing gear and practices are controlled. Trawls have been removed from finfish fisheries and are only allowed in shrimp fisheries when equipped with turtle and non-target fish exclusion devices, designed by the Fisheries Research Centre. In addition, new minimum size limits have been put in place, along with closed periods during the reproductive season and better control of fishing effort levels.

38. Significant efforts have also been made in increasing intensive and extensive forms of aquaculture, to maintain supply levels that meet the food needs of the population while reducing pressure on marine fish stocks.

39. The **Fisheries Policy** approved by the Council of Ministers (2017) includes the implementation of the **National Strategy for the Development of Marine Aquaculture** in Cuba, as well as indicators for the sustainable management and protection of the country?s primary fisheries to conserve marine biodiversity. A new **Fisheries Law** and various complementary regulations were approved by the Cuban Parliament in 2019.

40. Additional efforts are required, including the strengthening of institutional capacities, human capital and economic provisions, for the effective implementation of the Fisheries Policy, with the broad participation of coastal communities, especially women and youth.

41. The **Second National Communication (SNC) to the United Nations Framework Convention on Climate Change (2015)**, warned ?Insufficient level of approach to the effect of climate change on fisheries resources, including mariculture and aquaculture, as well as the management of the influence of sea level on salinization processes, marine intrusion and impact on hydraulic works on an experimental basis.? The SNC recognises the need to develop and administer sustainable management plans for fisheries resources that align with the agricultural, water, tourism, transport and food sectors, and to study and offer alternatives for subsistence fishing in coastal communities.

42. The **State Plan to Confront Climate Change - Life Task**, identifies Fishing (Task 8) as a priority sectorin addressing climate threat to the country's main economic and social activities. As a result of the analysis carried out on the impact of climate change on fisheries, the following has been identified: i) The marine fisheries in Cuba, in line with global trends, have been drastically reduced, many of the species are overfished or fully exploited. Extreme weather events aggravate this situation and cause severe damage to ecosystems; ii) llegal fishing contributes to deterioration and constitutes an obstacle to management measures; iii) the sea level rise might partially or totally affect shrimp farming and other coastal fishing establishments in which fishing product processing industries are located, with a significant impact on lobster, sea shrimp and farmed shrimp; items which constitute important exportable funds.

Baseline and GEF-financed projects, which results can contribute to the Project:

Project (Funding Source)	Type of Support	Synergy areas with the Project

Incorporating multiple environmental considerations and their economic implications in the management of landscapes, forests and productive sectors in Cuba (ECOVALOR), financed by the GEF for the period 2018 - 2023	Human resources training. Institutional development and strengthening. Visibility and dissemination of results.	Economic valuation of ecosystem and environmental goods and services. Feasibility studies for the implementation of oyster farms. Training and gender perspective in aquaculture activities and in the different stages of project implementation. Environmental monitoring protocols for oyster farms.
Fisheries management for a sustainable marine system in Cuba, financed by the Environmental Defense Fund (EDF) for the period 2020 - 2022.	Human resources training. Institutional development and strengthening. Visibility and dissemination of results. Financial support to conductcourses and workshops of mutual interest.	Fisheries management in the Gulf of Guacanayabo. Management plans for multispecies scale fish fisheries. Training in key sectors and fishing communities, with a gender focus. Contribution of fisheries to food and economic security with alternative livelihood for fishing communities.

The proposed alternative scenario with a brief description of expected outcomes and components of the Project and the Project?s Theory of Change

43. This Project aims to recover 6 marine species from the impacts of overfishing and other environmental pressures, through the application of sustainable fishing practices and the incorporation of aquaculture activities with low environmental impact. The Project will promote an Ecosystem Approach to Fisheries and Aquaculture (EAFA) in the Gulf of Guacanayabo, which will help reduce pressure on critical fisheries resources, while expanding economic options and improving the quality of life for the inhabitants of these areas.

44. The project will support actions to decrease the current pressure over the pink shrimp, by setting up a 20%[20][20] annual reduction in the catch quota, and decreasing shrimp by-catch. Both interventions are expected to result in +1,025 tons of sustainable fisheries. In addition, juvenile and pre-adult stages of shrimp populations will not be captured in breeding areas, thus ensuring a larger shrimp recruitment. Consequently, the Project will achieve a proportional decrease in the by-catch of the shrimp (AFC), the deterioration of sea beds, and the alteration of the structure of the marine communities in the Gulf of Guacanayabo.

45. Other Project actions include updating the regulatory base and the population status of global environmental importance species; the expansion of fishing exclusion zones to guarantee the conservation of nursery areas and the lagoon-coastal environment; training the control bodies for the effective elimination of poaching and the use of inappropriate fishing gear; alternative practices for the sustainable management of fisheries resources, such as marine aquaculture and the establishment of mini-industries, the development of artisanal productions with added value; a national fisheries and aquaculture management system with an ecosystem approach, agreed between local and national actors.

46. All phases of the process will incorporate social participation. The Project will adopt a multi-sectoral dialogue and articulation approach, to maximisebenefits by encouraging other economic and social sectors to join sustainable fishing and aquaculture practices; to observe biodiversity conservation measures; and to support environmental improvement in general.

47. This Project seeks to achieve an intersectoral approach to the protection and management of the marine-coastal resources of the Gulf of Guacanayabo. The Project will create and benefit

from the spaces for dialogue between the different territorial actors, with support from the basin councils, the Life Task territorial plans, and other consultation spaces.

48. The **Project objective** is: To contribute to the conservation of marine biodiversity through the sustainable management of fisheries resources and other marine-coastal resources of the Gulf of Guacanayabo, applying the Ecosystem Approach to Fisheries and Aquaculture (EAFA).

49. **Project Strategy:**

50. Regarding **BD mainstreaming**, the project will implement the FAO EAFA (http://www.fao.org/fishery/eaf-net/about/critical-elements/en) approach, which brings together both biodiversity mainstreaming and people-centred strategies in the management of fisheries resources. Given the peculiar institutional structure of Cuba, the potential scale-up from the local/project level to the national policies is very high. The project aims to influence, through Component 2, the national fisheries and aquaculture regulations and systems, extrapolating the EAFA criteria to other species not living in the GGE but important for the ecological balance. The project, through Component 3, will involve fisheries enterprises and will promote sustainable practices, alternative protocols and sharing of lessons learned.

51. According to FAO?s normative work, **aquaculture** is a means to reduce overfishing pressures and impacts over threatened or declining fisheries species. Low impact, small-scale aquaculture systems have been identified as a feasible alternative to capture fisheries within this project proposal. Farming of the native species Crassostrea rizophorae, whose culture technology has been applied in Cuba, would generate alternative cash income to fisher folk using a simple, low environmental impact technology, thus partially relieving pressure on capture fisheries. Oyster farming does not require external feeds, given that cultured organisms feed on naturally available phytoplankton and the culture infrastructure is organic and easily removable.

52. The pink shrimp *F.duroarum* one of the main fishery species of the Gulf of Guacanayabo, is also susceptible of culture in low impact facilities (i.e. floating cages) managed by families and/or communities. These two species can be cultured in same areas to create a multi-trophic system which reduces environmental impacts. Recirculating, zero-eater exchange aquaculture systems are also a low impact technology that has been applied in Cuba and can easily be adapted to the Gulf of Guacanayabo coastal communities. Moreover, controlled reproduction of such species can help restore natural stocks through planned and monitored re-stocking programs. FAO has a long experience in applying these techniques in the Caribbean sea.

53. An example is **oyster-culture**, which has shown wide vantages and low environmental impact: https://cibnor.repositorioinstitucional.mx/jspui/bitstream/1001/911/1/PUB-ARTICULO-3650.PDF .An area for monospecific aquaculture of mangrove oyster (a filter-feeding organism that grows on the roots of the red mangrove and complements the natural work of mangrove ecosystems as natural filter feeders and purifiers of coastal areas).

54. The project will apply **multi-trophic aquaculture (MTA)**, which is based on the principles of trophic chain and recycles organism residues as feed for other ones in the same system. MTA creates a natural balanced and environmentally sustainable process (?biomitigation?), which reduces the negative impact on the marine ecosystem. FAO promotes this alternative as sustainable production systems that conserves biodiversity and supports habitat functioning. This approach has been also documented by scientific papers[21][21].

55. The project will help establish areas of integrated multi-trophic aquaculture systems (MTA) and an area for monospecific aquaculture of **mangrove oyster** (a filtering organism that grows in the roots of the red mangrove and complements the natural work of mangrove ecosystems as natural filterers and purifiers of coastal areas).

56. The two aquaculture systems do not offer risks or negative impacts to the marine environment or to the gulf biodiversity because they will use will use local native species, in low densities for pilot productions to demonstrate the systems efficiency, and work will be guided by the sustainable aquaculture approaches promoted by FAO and EAFA.

57. This pilots will enable its extrapolation to other areas of the country, which is a project goal, by demonstrating the feasibility of these technologies and its practically nil environmental and marine biodiversity impacts which is in line with and it can meet the country's needs will to promote sustainable aquaculture development[22][22].

58. The Project four components are detailed below:

Component 1: Updating the knowledge bases for the management of sustainable fisheries and their key marine habitats, in the Gulf of Guacanayabo

59. During the first year of the Project, this component includes an assessment of the fish stocks of global environmental importance, reflected in their contributions to fisheries as indicators of the status of the coastal Estuarine and the Seibadal-Coral Reef ecological systems (reflecting the regional connectivity of their populations, the decline in their catch volumes in recent years, their socio-cultural value in the localities, and the impact of the fisheries on these species on the early phases of the life cycles of species of global environmental importance).

60. The selected fish species are the white shrimp, the pink shrimp, the lane snapper, the mutton snapper, the lebranch mullet, the king mackerel, the tarpon and the southern stingray. The Project will assess the current state of the white and pink shrimp fisheries, particularly its double impact on the shrimp resource and the species that support the fisheries and that are part of the accompanying fauna or bycatch in trawl fishing. In addition to indirect evaluations based on local empirical knowledge, specific and multipolicy research campaigns will be designed and executed, with the participation of national fisheries research institutions, led by the Fisheries Research Centre (CIP). These studies will take into account current and projected climatic variables, according to national scenarios.

61. According to population assessments of target species, as well as the findingsfrom the analysis of fishing practices, scientifically-based recommendations will be made based on their biology, ecology and on the management of fisheries resources. These include maximum allowable quotas, exploitation areas, closed periods, minimum catch sizes and fishing gear, diversification and control of fishing. The findings will be presented and discussed with the Fishing Advisory Commission.

62. To do this, the Project will use relevant climate information, models, and projections that incorporate the historical behaviour of fisheries in relation to climate variability, including extreme weather events. Early warning systems will be strengthened, also contributing to building local response capacity.

63. This information will used to prepare databases, cartography, reports and recommendations that will be essential for the other components of the Project and for coastal communities and local governments. It will make it possible to reinforce knowledge of the strengths and vulnerabilities of the south-eastern region of the Cuban shelf, the status of the most vulnerable and essential species, and to promote their conservation and sustainable use, contributing to the preservation of the region's marine-coastal biodiversity. All this information, including relevant climate information, will be considered in the development of the management plans resulting from this Project, and for the strengthening of climate early warning systems for fisheries.

64. The Project will work towards the revision of frameworks, monitoring, control and surveillance systems for fisheries and governance, issuing recommendations and adjustments for the generation of an enabling environment for the application of the recommended

management measures incorporated in the fisheries management plans. It will propose practices that allow for future implementation of management plans for fisheries resources with an ecosystem approach, based on the conservation of biodiversity and the sustainable use of marine-coastal resources and the direct reduction of pressure on the natural ecosystems of the region. The Project will work towards the identification of future risks linked to emerging infectious diseases and other issues affecting human welfare linked to environmental degradation.

65. The main sustainability factor both for the whole project success and in particular for the adoption of the EAFA approach, is related to: i) having sustainable income- generating activities for the population that depend on Guacanayabo?s natural resources and ecosystem services and, related to this, ii) the internalization of the short- and long- term benefits of improving fishing practices and governance. To instrumentalize such concepts and factors, multisectoral dialogue and planning, which are core to the EAFA, are of the essence. Whilst this is not a sudden process, the project aims at engaging local actors and national authorities in all steps of the project, involving the local communities in decision- making and, above all, demonstrating them, through piloting, participatory resource monitoring and management, the tangible benefits of biodiversity protection (i.e. increased biomass, biodiversity stability).

66. It is envisaged to incorporate the activities and innovations introduced by the project, in the multisectoral dialogue of the current national and local governance mechanisms, so that awareness is raised in other sectors whose activities have an effect on Guacanayabo. This is expected to stimulate a multisectoral development planning, which is central to the EAFA.

67. As far as potential barriers that could prevent this process to be successful are concerned, the speed at which the ecosystem and its services further deteriorate, resulting in increased fish biomass reduction of socially- important species, might surpass the timeframe of the project. Also the lack of interest by other non-fishery sectors to engage in both planning dialogue and adoption of environmental and biodiversity protection measures. The mitigation measures to overcome such potential drawbacks include, again to engage local actors right from the beginning and also to take advantage of the central government support that has been offered from the formulation stages, to stimulate the integrated planning and the adoption of the fishery governance and any possible environmental improvement identified to benefit the ecosystem and its biodiversity.

68. **Outcome 1.1. Improved and updated information on the state of targeted fish species and associated marine-coastal habitats in the Gulf of Guacanayabo.**

    1. **Output 1.1.1.** Technical recommendations to improve the conservation and sustainable use of coastal marine resources prepared.
    2. **Output 1.1.2.** Critical coastal areas for the conservation of marine species of global environmental importance, identified.

69. **Outcome 1.2. Strenghtening the enabling environment for the management of fishing species, with the promotion of an Ecosystem Approach to Fisheries and Aquaculture (EAFA).**

    3. **Output 1.2.1.** Management plans for 6 targeted fish species in critical marine areas, designed in a participatory manner and with a gender perspective[23][23].
    4. **Output 1.2.2.** Fishing companies (3) apply practices to improve the conservation and sustainable use of fish species in the Gulf of Guacanayabo[24][24].

5. **Output 1.2.3.** Monitoring, control and surveillance systems for the conservation and sustainable use of fisheries resources, is strengthened in a participatory manner.

GEF incremental financing of -283,046 USD in Component 1 will support investments as follows: expendable (32,200 USD) and non-expendable procurement (133,746 USD). GEF co-financing will also support laboratory analysis, trainingand travel. In view of the COVID-19 pandemic and the national containment measures, the Project will implement online capacity development and virtual classrooms, whenever possible.

Component 2: Sustainable livelihoods through fisheries diversification and aquaculture with added value in their products

70. This component focuses on interventions that reduce anthropogenic pressures on fishing species of global environmental importance and on ecosystems in the Gulf of Guacanayabo. Sustainable aquaculture, in addition to reducing fishing pressure on natural populations, enables productive increases and allows diversification of the livelihoods of coastal communities. Integrated Multitrophic Aquaculture methods will be applied through this component, including white shrimp as the primary species for this culture modality, andfiltering molluscs. The intention is to reduce the intensity of fishing on the natural resource without significant impacts on the ecosystem. Local industries will be strengthened in aquaculture production. Mini-industries will also be promoted that will use fish discards and by-products of other local processing industries, as raw material for the preparation of food for the species under cultivation, while minimizing coastal pollution. This component will help increase the economic resilience of fishing communities in the face of the impacts of climate change and diversify the supply of food with added value, generating new sources of employment, with gender equity.

71. The component includes the identification of opportunities for the incorporation of more selective and sustainable capture technologies, which can gradually replace fishing practices with high environmental impact, such as shrimp trawling. This process will be done in a participatory manner and with demonstrative exercises, seeking horizontal transmission (fisher-fisher) with the accompaniment of the CIP.

72. Aquaculture is one of the economic alternatives that local actors have identified during the PPG consultation process, since it is a successful activity in other parts of the country. The project will only promote low-impact aquaculture systems; for example, oyster farming, which is non-fed and as filter feeders, oyster somehow contribute to organic matter removal. Also small-scale shrimp farming, using native species (at least one of the species being currently under heavy fishing pressure) will allow for relieving juvenile pressure in the Gulf. Moreover, the production of hatchery-reared larvae of *F. notialis* could help re-stocking natural populations.

73. Aquaculture is not the only alternative economic activity proposed by the project. The utilization of fishery wastes and the value addition to fishery and aquaculture products, will certainly represent alternative sources of income to local families. This fact is expected to reduce the pressure not only upon fishery resources but also on other natural resources from the adjacent natural protected areas.

74. During the first phase of the Project, the selected areas suitable for aquaculture will be confirmed, usingsocio-economic and environmental compatibility criteria. Species naturally distributed in the gulf will be used, among which white shrimp and oysters stand out, as well as marine algae, to form multitrophic culture systems. The implementation of low impact monospecific non-fed crops, such as small-scale oyster farming, is also contemplated.

75. The capacities of members of the target communities will be strengthened to generate added value to their products. Community members will be trained in aquaculture and processing restructured fish feed for human consumption, using by-products from the fishing industry, which, together, will decrease fishing pressure in the Gulf.

76. In determining these measures, consideration will be given to disseminating the relevant climate information (hydrometeorological and marine), to the fishing communities and promoting actions that increase the resilience and adaptation of the species, the ecosystems in which they develop their life cycle and the communities linked to these activities.

77. Under Component 2, the Project will assess the introduction of by-catch reduction devices (BRD), taking lessons learned from the REBYC-II LAC project (GEF ID 5304), which have achieved a reduction of 40% in by-catch from shrimp fisheries in the Caribbean sea.

78. To implement this Component, various activities will be carried out in the ecosystem of the Gulf of Guacanayabo, based on the territories / companies involved, which will consist essentially of:

a) Implementation of Integrated Multitrophic Aquaculture (IMTA).

b) Monospecific sea oyster aquaculture in tents in estuarine areas. Extension of oyster farming and rescue of clam fishing, with the participation of the non-state commercial sector.

c) Diversification of products. Use of shrimp processing by-products (heads) for the food and oyster industries (shells for poultry feed and calcium supplements) and fish discards, as raw material for the production of feed for aquaculture.

d) Orderly industrial use of fish with low commercial value, through food products with added value.

e) Design of Locally-led Adaptation for selective and sustainable fishing alternatives, with the vulnerable opulations involved in the shaping of such measures

79. **Outcome 2.1. Sustainable productive alternatives have been increased and diversified, including more selective fisheries and low-impact marine aquaculture.**

6. **Output 2.1.1**. More selective and sustainable fishing alternatives, tested and implemented for traditional species and fisheries.
7. **Output 2.1.2.** Marine aquaculture zones established, including Integrated Multitrophic Aquaculture, as an additional pillar to the sustainable management of fisheries resources.
8. **Output 2.1.3.** Established mini-industries for aquaculture feed production, using by-products from the local fishing industry and other locally available raw materials.
9. **Output 2.1.4**. New products developed that improve the artisanal fishing value chain (molluscs, crustaceans and fish), with added value and links to local fishing industry

GEF incremental financing of 682,766 USD in Component 2 will be invested in non-expendable (514,406 USD) and expendable procurement (29,660 USD). GEF co-financing will also support the hiring of consultants, travel and training.

Component 3: Knowledge management and dissemination of results for replication and national scaling

80. The third component includes actions to support the development of a multi-stakeholder, multi-level governance system that allows biodiversity conservation measures through best fishing practices and alternative livelihoods to be adopted and implemented within a framework of integrity, under the EAFA. Also includes a dialogue to facilitate the interaction of science, experience and policy to prevent further infectious disease risk. This will be achieved through informed dialogue, training, awareness, communication and visibility of the Project and its results, in addition to agreements with the community and with central and local authorities. It foresees establishing capacity development mechanisms and spaces for dialogue between the participants (technicians, productive entities, coastal communities,

managers, local governments) fora consensus vision for the sustainable use of fisheries resources, the application of incentives and good practices/technologies. In the training process, capacities will be strengthened to mainstream a gender equality perspective and gender-sensitive value chain methodologies. A Project Communication Strategywith a gender perspective will also bedeveloped to increase the visibility of gender equality andto disseminate the results of the Project. Communications will highlight gender mainstreaming practices in the Project and theimpact on women?squality of life, as well as the benefits for men. It is hoped that this will help guide their replication in other areas of the country, bysharing experiences through audio-visual products and materials for different target audiences and in different formats and media.The Project will also promote the participation of women in capacity building processes, in order to facilitate their access to technical advice.

81. **Outcome 3.1. Strengthened Fisheries management with an EAFA approach.**

    10. **Output 3.1.1.** Fisheries management system applyingEAFA, agreed with national and local stakeholders.
    11. **Output 3.1.2.** EAFA practices incorporated into national fisheries and aquaculture management policies and systems.
    12. **Output 3.1.3.** Proposal of protocols for replication and national scaling, of alternative productive practices and of the participatory governance system implemented in the Gulf of Guacanayabo.
    13. **Output 3.1.4**. Project Communication Strategy, with a gender perspective.

GEF incremental financing of 123,250 USD in Component 3 will be invested in training (59,100 USD) and non-expendable procurement (26,500 USD), travel, materials and diffusion tools.

Component 4: Project Management

82. The fourth component includes the implementation and operation of the Project's management structures concerned with monitoring the chain of cause-effect hypotheses: inputs - activities - outcomes - outputs - impact. The results of the management monitoring will allow timely decision-making on a day-to-day basis;and lay the foundations for the analysis of the current year?s results, and for future planning; also includes for timely and e?ective responses to the COVID-19 crisis and for a swift recovery thereafter. These management structures will supportthe learning of the Project team and other Project participants.Evaluations will provide recommendations to help keep the Project's focus on the priorities of the donor, the implementing agencies, and the national authorities. This component also includes a terminal evaluation.
83. The Project's systemic conception is based on the close relationship between the components. Seascape resilience will be enhanced through the individual and synergistic impacts of a set of adaptive community practices that maintain ecosystem services, conserve biodiversity, and adapt to climate change.
84. More detail on the Project intervention logic is in the logical framework matrixat Annex A1. The matrix indicators will be reviewed and updated, during the start-up phase and annually, together with the stakeholders involved in the Project.
85. **Outcome 4.1. Monitoring and evaluation system implemented.**

    14. **Output 4.1.1.** Project M&E system, with gender sensitive indicators established.

    15. **Output 4.1.2**. Terminal Evaluation.

86. GEF incremental financing on Component 4 (72,550 USD) will co-finance the project M&E system, including a terminal evaluation. This includes support for travel and training, and a mid/term workshop.

87. The Project contributes to the 2030 Agenda, by directly contributing to the achievement of the following Sustainable Development Goals (SDGs): 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture; 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development; 15. Protect, restore and promote the sustainable use of terrestrial ecosystems, carry out sustainable forest management, fight desertification, stop and reverse land degradation and curb the loss of biological diversity. Action contributes indirectly to the achievement of the SDGs 1. End poverty in all its forms worldwide; 5. Achieve gender equality and the empowerment of all women and girls; 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation; 12. Guarantee sustainable consumption and production patterns. The project design takes into account the Ecosystem Approach to Fisheries and Aquaculture (EAFA), promoted by FAO and the concept of Blue Economysupported by the GEF. The proposed action also contributes to the implementation of the State Plan for Confronting Climate Change - Life Task, approved in April 2017, by the Cuban State.

88. Incremental GEF financing and co-financing will be used to overcome the above barriers and to generate added value.

89. Around 50% of the GEF grant will be delivered as investment, given the particular circunstances of Cuba, where availability for the purpose of sale or rental of equipment (measurement, transportation, computing), inputs and other supplies is very limited, almost nil, in the domestic market. Due to this reality, international cooperation projects require import processes for the purchase of equipment, inputs and other supplies not available in the country, which are necessary to ensure the achievement of the project outcomes. Furthermore, this import process is developed taking into account the limitations of access to the international marketdue to the economic, commercial and financial embargo of the United States Government on the country, and which additionally prolongs and increases the acquisition, insurance and transport processes to the country.

90. Given that Cuba has a strong technical capacity at national level, an important part of the support on experts, capacity building and training, will be provided with public co financing and supported by national institutions.

Project?sTheory of Change(ToC)

91. The ToC states that the problem of fisheries decline is the result of the combined action of unsustainable fishing practices, environmental degradation and the impacts of climate change. The paradigm shift is expected to occur as a result of the application of the Ecosystem Approach to Fisheries and Aquaculture (EAFA) in the GGE, through the set of outputs provided by the three project components - which are interrelated.

92. It is assumed that the project outputs (goods and services) would create, in the short-term, enabling conditions for the EAFA implementation in the GGE. In the medium- to long-term, project outcomes would lead to positive changes in economic and environmental indicators related to fishing activities in the GGE and behavioral changes among stakeholders: better EAFA understanding and implementation, greater awareness on biodiversity conservation, enhanced coordination among local and inter-sectoral stakeholders, and integrated vision and management of the GGE.

93. In addition, the strengthening of diversified and sustainable fisheries in the GGE and replication of successful experiences in similar ecosystems (horizontal), and EAFA mainstreaming in fishing regulations, plans, programs and projects (vertical), would contribute to a new paradigm of jointly achieving socioeconomic improving and mainstreaming biodiversity in fisheries management.

94. Aquaculture is a way to diversifying livelihoods and reducing fishing pressures on natural populations. The centralized and planned characteristics of the Cuban Fisheries Management System ensure that there will be no individual and uncontrolled increase in fishing effort, even when fishermen's incomes improve.

95. The project will promote low-impact aquaculture systems, favoring oyster farming (the food is natural, extracted from the environment by filtration); or shrimp farming in cages; or closed systems with zero water replacement or multi-trophic aquaculture. Aquaculture can also support the restoration of populations such as shrimp. Aquaculture offers communities incomes during closed seasons, avoiding illegal fishing due to the need to generate income. Moreover, in the face of the need to manage and restrict fishing efforts, aquaculture contribute to employ people who would otherwise continue fishing for subsistence.

96. The ToC assumptions, by component, are as follows:

a) The local fishing companies take into account criteria of the environmental and sectoral authorities with incidence in the coastal zone when designing their production plans (Component 1).

b) Local governments promote diversification of climate-resilient livelihoods that preserve marine-coastal ecosystems (Component 2).

c) Local governments promote the creation of spaces for systematic dialogue between key stakeholders concerning EAFA (Component 3).

d) The national authorities of CITMA and MINAL promote the updating of the legal and regulatory base on the conservation and sustainable management of coastal ecosystems (Component 3).

e) There is stability in the Project team composition (Component 4).

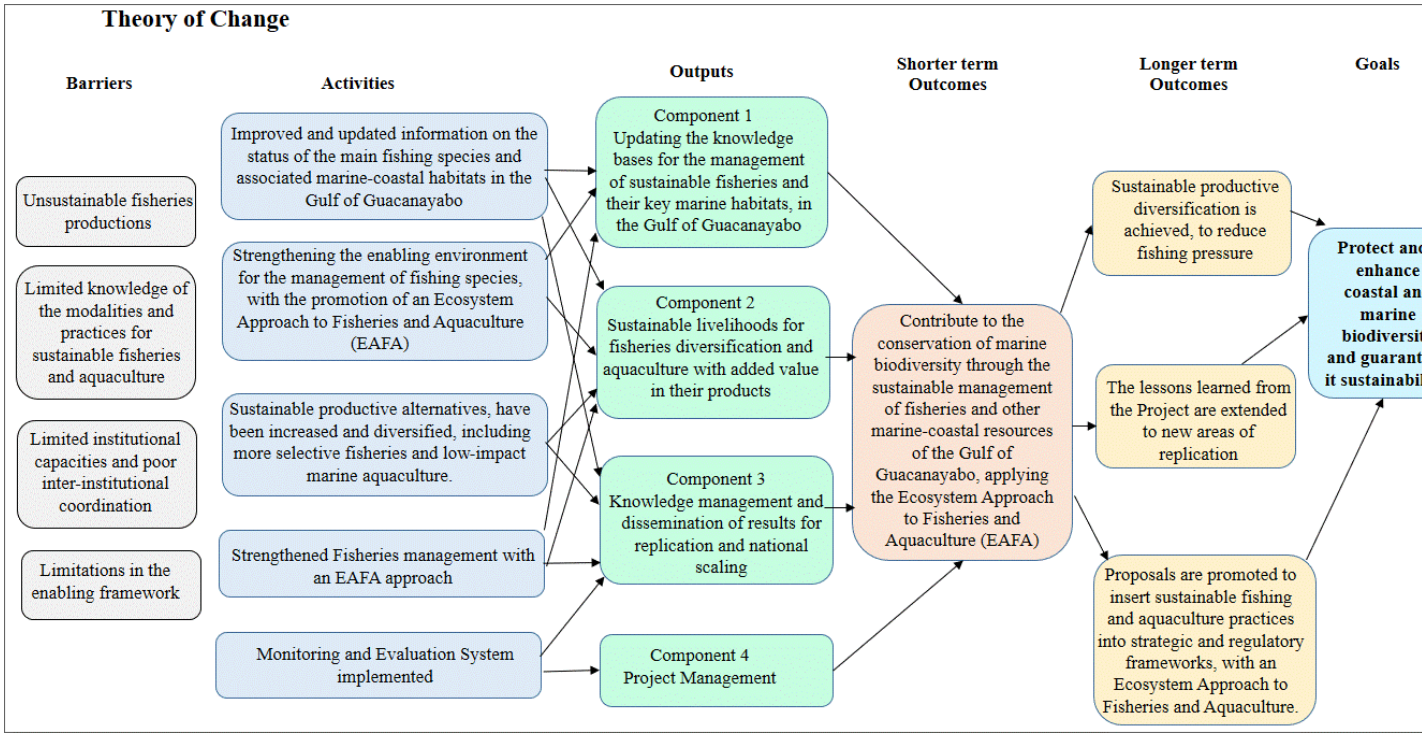
f) Project team members are trained to perform various functions (Component 4).

g) Adequate support from national and territorial stakeholders is achieved during the final evaluation (Component 4).

97. The ToC is an anticipatory model of how a broader systemic change should be achieved and which the expected contribution of the project is. The ToC, by proposing alternatives to achieve a desired state, allows, with the help of monitoring, evaluation and the application of tools such as Reflection After Action, to verify what is going well and what could go better, in order to timely take corrective measures and to contribute both to the institutional and individual learning.

98. The ToC diagram is included below. For the elaboration of the ToC, a set of methodological sources have been taken into account[25][25].

Graphic 1: Project?s Theory of Change


Theory of Change
Barriers
Activities
Outputs
Shorter term Outcomes
Longer term Outcomes
Goals
Unsustainable fisheries productions
Limited knowledge of the modalities and practices for sustainable fisheries and aquaculture
Limited institutional capacities and poor inter-institutional coordination
Limitations in the enabling framework
Improved and updated information on the status of the main fishing species and associated marine-coastal habitats in the Gulf of Guacanayabo
Strengthening the enabling environment for the management of fishing species, with the promotion of an Ecosystem Approach to Fisheries and Aquaculture (EAFA)
Sustainable productive alternatives, have been increased and diversified, including more selective fisheries and low-impact marine aquaculture.
Strengthened Fisheries management with an EAFA approach
Monitoring and Evaluation System implemented
Component 1 Updating the knowledge bases for the management of sustainable fisheries and their key marine habitats, in the Gulf of Guacanayabo
Component 2 Sustainable livelihoods for fisheries diversification and aquaculture with added value in their products
Component 3 Knowledge management and dissemination of results for replication and national scaling
Component 4 Project Management
Contribute to the conservation of marine biodiversity through the sustainable management of fisheries and other marine-coastal resources of the Gulf of Guacanayabo, applying the Ecosystem Approach to Fisheries and Aquaculture (EAFA)
Sustainable productive diversification is achieved, to reduce fishing pressure
The lessons learned from the Project are extended to new areas of replication
Proposals are promoted to insert sustainable fishing and aquaculture practices into strategic and regulatory frameworks, with an Ecosystem Approach to Fisheries and Aquaculture.
Protect and enhance coastal an marine biodiversit and guarant it sustainabil

Alignment with GEF focal area and/or Impact Program strategies

99. The Project aligns with BD 1.1: Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors

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

100. The demand for fish and shellfish in Cuba is continuously increasing, which is significantly affected by tourism, the main pillar of the national economy. As a result, the pressure on fishing resources increases, both legally and illegally. At the same time, the impacts of climate change are affecting fishing activity in many parts of the country, as a result of rising sea temperatures and sea levels; stratification due to changes in water density; increased acidification; decreased oxygen;and changes in primary productivity, among others. As a result of these trends, which are also influenced by various environmental impacts, fish stocks have declined in many parts of Cuba.

101. Critical marine habitats, including mangroves, corals and other marine-coastal ecosystems, are being degraded by destructive fishing practices and changes in the composition of species and food webs due to overfishing. In the absence of the proposed Project, fish stocks in the Gulf of Guacanayabo will continue to decline, and marine ecosystems will continue to degrade. Without access to sufficient, updated data and technical capacities, government agencies? current efforts to address these problems will continue to be ineffective. This is also exacerbated by inadequate resources, limited regulatory frameworks and coordination mechanisms between different government entities to sustainably manage fisheries. Although the fishing communities at the project sites have an interest in fisheries management, they do not have sufficient technical knowledge, planning processes, or access to information and tools to allow their effective participation.

102. The Project will introduce management models that combine institutional action with the community activity, allowing the joint efforts of the government and civil society to be applied to this urgent situation.

103. Under the alternative scenario, the proposed Project will allow the development for the first time in Cuba of:

a) A better understanding of the ecological conditions and fish stocks in the intervention areas as a basis for more sustainable management and use, which will contribute to the conservation of marine-coastal biodiversity.

b) Incorporation of sustainable fishing practices, introducing participatory governance for the sustainable management of fisheries resources using FAO's ecosystem approach to fisheries and aquaculture (EAFA).

c) Diversification of livelihoods with the aim of reducing the pressure concentrated on some species. This will contribute to the protection of biological diversity and the sustainable use of other marine-coastal resources of the Gulf of Guacanayabo, developing new and better market opportunities for products based on sustainable fisheries.

d) Strengthening the regulatory framework and the capacities of institutions and fishermen to allow joint participation in fisheries co-management.

104. As a whole, the actions proposed in the Project will allow achieving a state of improved balance inecosystem services, contributing to globally connected environmental objectives. They will also improve the living conditions of the population dependent on the Gulf of Guacanayabo. Continuing the Business as Usual scenario will only lead to the more rapid deterioration of the Gulf and the livelihoods that depend on it.

105. The Ministry of Food Industry, together with the participating state-owned fishing companies, will mobilize public investment funds as grants to support the project conservation activities

in the Gulf of Guacanayabo and to strengthen the sectorial regulatory framework for fisheries production in Cuba.

Project contributions to the elimination of the identified barriers

Components	Outcomes	Identified barriers in the Theory of Change	Contribution to the elimination of barriers
C 1. Updating the knowledge bases for the management of sustainable fisheries and their key marine habitats, in the Gulf of Guacanayabo.	1.1.1. Technical recommendations to improve the conservation and sustainable use of marine-coastal resources, prepared.	Barrier 2. Limited knowledge of modalities and practices on sustainable fisheries and aquaculture due to: a. Insufficient scientific information generated by research institutions that contribute to the sustainable management of fisheries resources; limited technological capacity to transform this knowledge into sustainable productive economic alternatives to reduce pressure on fisheries resources and increase economic options to improve the quality of life of the population that depends on the Gulf of Guacanayabo ecosystem. b. Actors directly or indirectly linked to fishing activities have limited knowledge of more sustainable practices and modalities in fishing and aquaculture. They are unaware of the potential for new economic activities associated with these subsectors. c. This lack of awareness prevents them from jointly developing a comprehensive and long-term vision and agreeing a strategic framework to make their fishing activities more sustainable while protecting biodiversity and improving the resilience of ecosystems and communities.	- Knowledge development on the species of global environmental importance identified, allows establishment of conservation and sustainable use measures. - Strengthening capacities for monitoring and evaluating fisheries resources allows generation of a regular participatory monitoring system for timely decision-making. - Strengthening the capacity to transform scientific knowledge into recommendations for the sustainability of productive activities.
	1.1.2. Critical coastal areas for the conservation of marine species of global environmental importance, identified.		- Strengthening inter-sectoral and territorial coordination around the management of fisheries resources, allows for the enhancement of capacities at all levels and with it, the integral management of resources.
	1.2.1. Management plans for 6 targeted fish species in critical marine areas, designed in a participatory manner and with a gender focus.		- Transformation of scientific information into tools to support decision making, will allow decisions based on solid and informed scientific information.
	1.2.2. Fishing companies (3) apply practices to improve the conservation and sustainable use of fish species in the Gulf of Guacanayabo.		- Improvement in intersectoral and territorial coordination. - Transformation of scientific information into tools to support decision making.

	1.2.3. Monitoring, control and surveillance system~s for the conservation and sustainable use of fisheries resources, is strengthened in a participative manner.		- Strengthening capacities for monitoring and evaluating fisheries resources - Strengthening intersectoral and territorial coordination regarding the management of fisheries resources.
C 2. Sustainable livelihoods through fisheries diversification and aquaculture with added value in their products.	2.1.1. More selective and sustainable fishing alternatives, tested and implemented for traditional species and fisheries.	Barrier 1: Fish production has unsustainable levels for the following reasons: a) Prevailing models of fishing practices that limit conservation and weaken the resilience of ecosystems; b) In general, there is a production approach predominantly characterized by the maximization of immediate results, with little attention to the effects on environmental sustainability; c) Opportunities for productive diversification that allow the release of concentrated pressure on a few species are lost or wasted, while promoting the resilience and protection of habitats and their biodiversity; d) There are no incentives to develop new products or add value to existing products in the established value chains, which would allow generating greater profitability with the same or lesser volume of catches, as an incentive that does not add fishing effort.	- Decrease in direct pressure on fishing resources. - Creation of new economic alternatives. - Introduction of more sustainable fishing practices, which consider the ecosystem approach more comprehensively.
	2.1.2. Marine aquaculture zones established, including Integrated Multitrophic Aquaculture, as an additional pillar to the sustainable management of fishery resources.		- Productive chains. - Decrease in coastal pollution.
	2.1.3. Mini-industries for aquaculture feed production established, using by-products from the local fishing industry and other locally available raw materials.		- Productive chains. - Decrease in coastal pollution.
	2.1.4. New products developed that improve the artisanal fishing value chain (molluscs, crustaceans and fish), with added value and links to the local fishing industry.		- Increased income of local communities. - Higher family income with less or equal catch volume.

C3. Knowledge management and dissemination of results for replication and national scaling.	3.1.1. Fisheries management system applying EAFA, agreed national and local stakeholders.	Barrier 2. Limited knowledge of modalities and practices for sustainable fisheries and aquaculture due to: a) Insufficient scientific information generated by research institutions that contribute to the sustainable management of fisheries resources, and limited technological capacity to transform knowledge into sustainable and productive economic alternatives, which would reduce the pressure on fisheries resources while increasing economic options to improve the quality of life of the population that relies upon the Gulf of Guacanayabo ecosystem. b) The actors linked directly or indirectly to fishing activities have limited knowledge of more sustainable practices and	- Knowledge development - Behaviour of the users of the resources in line with the sensitization acquired in the framework of the management of the EAFA.
	3.1.2. EAFA practices incorporated into national fisheries and aquaculture management policies and systems.		- Improvement of inter-institutional and intersectoral coordination. - Optimization of efforts and resources.
	3.1.3. Proposal of protocols for replication and national scaling, of alternative productive practices and the participatory governance system implemented in the Gulf of Guacanayabo.		-Increase experiences and lessons learned that allowfor improvedreplication and the normative and regulatory base of fishing and aquaculture activities.

	3.1.4. Project communication strategy, with a gender perspective.	modalities in fishing and aquaculture. They are unaware of the potential for new economic activities associated with these subsectors. c) This flaw prevents them from jointly developing a comprehensive and long-term vision and agreeing on a strategic framework to make their fishing activities more sustainable while protecting biodiversity and improving the resilience of ecosystems and communities. Barrier 3. Inadequate institutional capacities and poor inter-institutional coordination. a) The authorities responsible for the regulation, monitoring and evaluation of fisheries management have limited technical capacities. There is a lack of inter-institutional management and there is no harmonization between the objectives and interests oriented to production and conservation. There is a lack of intersectoral mechanisms that can incorporate integrated fisheries management. b) The fisheries sector, as the main livelihood of local communities, lacks specific means for planning and managing, with a long-term vision, the sustainable management of fisheries resources in order to restore critical stocks; make rational use of goods and services derived from marine-coastal natural resources, within a framework that guarantees the preservation of biological diversity. Barrier 4. Limitations in the enabling framework a) There are no sectoral fishing regulations to protect biodiversity. b) There is a lack of legislative frameworks that establish budgetary allocations and multi-level inter-institutional articulation to regularly monitor the state of fisheries resources in the Gulf of Guacanayabo. c) The Ecosystem Approach to	- Improvement of inter-institutional and intersectoral coordination. Improved coordination between companies, government and communities. - Empowerment of women in the fishing sector. - Knowledge development. - Strengthening the technical capacities of the authorities responsible for the regulation, monitoring and evaluation of fisheries management.

C 4. Project management	4.1.1. Project M&E system, with gender sensitive indicators established.	Barrier 2. Limited knowledge of modalities and practices for sustainable fisheries and aquaculture due to: a) Insufficient scientific information generated by research institutions that contribute to the sustainable management of fisheries resources; as well as limited technological capacity to transform that knowledge into sustainable productive economic alternatives, which reduce pressure on fisheries resources and increase economic options to improve the quality of life of the population that depends on the Gulf of Guacanayabo ecosystem. b) The actors linked directly or indirectly to fishing activities have limited knowledge of more sustainable practices and modalities in fishing and aquaculture and are unaware of the potential for new economic activities associated with these	- Strengthening capacities for monitoring and evaluating fisheries resources. - Strengthening capacity to transform scientific knowledge into recommendations for the sustainability of productive activities.
			- Strengthening technical capacities of the authorities responsible for the regulation, monitoring and evaluation of fisheries management. - Improvement of inter-institutional and intersectoral coordination. - Improved coordination between companies, government and communities. - Knowledge development. - Behaviour change on the relevance of the ecosystem approach for the sustainability of fisheries and aquaculture.

	4.1.2. Terminal evaluation done.	subsectors. c) This flaw prevents them from jointly developing a comprehensive and long-term vision and agreeing on a strategic framework to make their fishing activities more sustainable, while protecting biodiversity and improving the resilience of ecosystems and communities. Barrier 3. Inadequate institutional capacities and poor inter-institutional coordination a) The authorities responsible for the regulation, monitoring and evaluation of fisheries management have limited technical capacities. There is a lack of inter-institutional management and there is no harmonization between the objectives and interests oriented to production and conservation. There is a lack of intersectoral mechanisms that can incorporate integrated fisheries management. b) The fisheries sector, as the main livelihood of local communities, lacks specific means for planning and managing, with a long-term vision, the sustainable management of fisheries resources in order to restore critical stocks; make rational use of goods and services derived from marine-coastal natural resources, within a framework that guarantees the preservation of biological diversity.	- Strengthening the technical capacities of the authorities responsible for the regulation, monitoring, and evaluation of fisheries management. Creation of new economic alternatives. - Increased income of fishing communities. - Improvement of inter-institutional and intersectoral coordination. - Improved coordination between companies, government and communities. - Empowerment of women in the fishing sector. - Knowledge development. - Behaviour change on the relevance of the ecosystem approach for the sustainability of fisheries and aquaculture.

Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

106. Reducing fishing pressure; as well as improving fisheries practices and governance, as the root causes of the reduction of shrimps and small pelagics populations, that form one of the most important parts of the food web, will contribute to restore the ecological balance of Guacanayabo. In this way migratory species, some of which are listed as ?diminishing populations? and have been included in the project as target species, will thrive. Guacanayabo is both a feeding ground for larger species of importance to the LME Gulf of Mexico and the Wider Caribbean, and a nursery for shrimp and small pelagic species. Therefore if such populations are stabilized, the ecological functions of the Gulf of Guacanayabo will improve

thus contributing to the ecological balance of the wider GoM and Caribbean ecosystems and the globally important species that thrive there.

107. In concrete, the project is expected to generate the following GEBs:

1. *GEF Core Indicator 5* - Area of marine habitat under improved practices (excluding protected areas) (Hectares): 74,432 hectares. It includes the entire marine area, up to 3 m deep, from Cabo Cruz to the border with the Gulf of Ana Mar?a, and the area corresponding to the spawning aggregation crown off Cabo Cruz. It represents 10% of the total gulf fishing area (744,520 ha). This area will have fishing regulations, through a resolution that will be proposed to MINAL and its Fisheries Advisory and will be controlled by ONIE and the Directorate of Border Guard Troops.
2. *GEF Core indicator 8* - Globally over-exploited marine fisheries moved to more sustainable levels: 1,025 metric tons. The fishery being measured is pink shrimp (*Farfantapenaeus notialis*). This target will be reached through project actions, including the reduction of the pink shrimp catch quota by 20% act.

108. In addition, the project will generate socio-economic co-benefits for:

c. *GEF Core Indicator 11* - Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment: 43,485 (20,125 women and 23,360 men). The Project beneficiaries consider the four Project components: training of government and municipal staff, knowledge management actions including women scientists, value chain activities (post-landing) where women have a strong role, not just the fishing actions which are indeed dominated by men.

Innovativeness, sustainability, potential for scaling up and capacity development. ?

Innovativeness

109. The results of the Project will be innovative for Cuba, the insular and continental Caribbean. The innovative nature of this Project lies in the use of an approach based on the ecosystem approach to fisheries and aquaculture (EAFA) for the sustainable management of productive systems through enhanced biodiversity mainstreaming and the sustainable management of natural resources. Marine aquaculture is an essential alternative to achieve sustainable increases in the production of food of marine origin of nutritional importance and is being developed in several countries in the region, including Cuba, due to its potential through low impact farming technologies.

110. In addition to its inherent benefits through sustainability in management, at least three new value-added products and essential activities are added, compared to the prevailing model that gives limited importance to the integration of biodiversity and conservation needs.

111. The increasing global decrease in catch volumes of many fisheries is indisputable. Evaluating these resources with methods that involve both variability and climate change and the convergence of the ecological, socio-economic and institutional subsystems, is an essential innovation to achieve sustainable and ecosystem management in the Greater Caribbean region, due to the marine connectivity of its waters.

Sustainability

112. The Project haselementsthat promote the continued achievement of its objectives and results long after direct implementation. Several key principles supporting sustainability,including improved governance, integrated biodiversity and sustainable management of natural resources in production chains, will be incorporated into development policies. The Project supports interventions that will reinforce government plans and activities, and that can be

integrated into public policies. These interventions and consequences will be more relevant to institutions, align with government plans and priorities to increase fishing production and aquaculture in the country, with sustainable practices that prioritize the conservation of natural resources and the protection of biodiversity.

113. The Fisheries Research Centre, the Ministry of the Food Industry, the fishing companies of the Business Group of the Food Industry (GEIA) and institutions involved in the execution of the Project will have strengthened human resource capacity and facilities to carry out its goals and support its sustainability once the project execution time has ended.

114. By 2023-2024, the results of the Project will be integrated into the National Strategy for the development of Mariculture. They will amplify the objectives and goals of the National Environmental and Biological Diversity Strategy approved up to 2030, in addition to its insertion in the planning processes for development and incorporation into the diet and well-being of local people. The results will be integrated into national systems with a view to the sustainable use and protection of the identified marine species. They will also be the basis for scaling in different regions of the country, including, in the first instance, the project execution area.

115. The promotion and implementation of stakeholder coordination spaces with an ecosystem vision of the Gulf of Guacanayabo, will make it possible to coordinate and include the protection and sustainable use of marine-coastal resources into the sectoral and territorial development plans of the three provinces with coasts in this ecosystem.

116. The Project will partner with public institutions, including national, regional and local governments and structures, and support the development of technical, institutional and human capacities of scientific and research staff of national institutes. This capacity development will serve as long-term support beyond the duration of the Project. It will allow the sustainable management of native biota in marine ecosystems, the evaluation of production chains andmanagement adviceto producers and communities for their implementation.

117. The inhabitants of the coastal communities and decision-makers at both the community and government levels will have the necessary tools to plan and integrate environmental and conservation work and the sustainable use of fisheries resources into local development plans, considering the conservation of marine-coastal ecosystems and biodiversity at all times.

118. In conclusion, the Project will work with and support community organizations, associations, and communities to establish their effective management structures during implementation. This will serve as a pillar of project sustainability, over the long-term, as intervention measures will be generated based on results and social participation in all phases of the Project.

Scaling up

119. The technical documents, lists, manuals and guidelines that will be developed as part of the Project will be the means to replicate best practices. Proper dissemination of information and best practices, together with the participation of decision-makers and a wide range of research and development and regulatory institutions, will jointly serve to drive and encourage replication. The success of the elements of the Project on governance and the regulatory and policy frameworks will be a key factor, since it will favour the replication of the results in other parts of the country. The development of methodologies, baseline information and proposals will have a revitalizing impact on fishing and aquaculture practices.

120. Developing a conceptual framework for creating project financing mechanisms for the sustainable management of biodiversity and natural resources in marine ecosystems, will promote new ways of financing projects that will benefit other areas and productions in the country.

121. Cuba prioritizes international cooperation and is a pioneer in South-South cooperation inits history of GEF projects. By taking these cooperation policies into account, the Project offers the opportunity to replicate its results and positive experiences to other GEF-recipient countries. Cuba hasexperiencewith scientific-technological innovation and aid services and technical cooperation in dealing with natural disasters, and the hazards, vulnerabilities and risks derived from climate change. This experience will provide important avenues to build collaborative bridges during the life of the Project that could be usedby other countries, to protect and conserve marine resources. (See Theory of Change, above, in the Incremental/additional cost reasoning section).

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[1] IUCN Red List 2021 (The IUCN Red List of Threatened Species. Version 2021-1. https//www.iucnred.org)

[2] Claro R., Lindeman K., Kough A., Paris C. (2018) Biophysical connectivity of snappers spawning aggregations and marine protected areas management alternatives in Cuba. Fish. Oceanography 28 (1) 33-42; Claro R., Lindeman K., Parenti L. (2002) Ecology of Marine Fishes of Cuba. Smithsonian Institution Press; and E. Gim?nez-Hurtado, P?rez-Marrero C., Delgado-Miranda G., Alonso-Dominguez H., Villafuerte-Delgado V (2016) Behavior of bycatch in Pink shrimp fishery (Farfantepenaeus notialis) in the southeast Platform of Cuba, REDVET (*Revista Electr?nica de Veterinaria*) 17(11) (https://www.cabdirect.org/cabdirect/abstract/20173055839).

[3] COP 13 (2018). *Informe nacional sobre la aplicaci?n de la convenci?n de RAMSAR sobre los humedales* (www.rsis.ramsar.org).

[4] CITMA 2019. Sixth National Report on Biological Diversity of the Republic of Cuba. CITMA-GEF-UNDP

[5] Martinez-Daranas B. 2010. Seagrasses and climate change in Cuba. Memories I Network Workshop CYTED BIODIVMAR. (www.researchgate.net)

[6] Men?ndez L., Guzm?n JM: 2002 Mangrove ecosystem in the Cuban archipelago. (https://unesdoc.unesco.org)

[7]Alcolado P. 2010. Climate change and coral reefs in the Greater Caribbean and Cuba. Red CYTED BIODIVMAR. (www.researchgate.net)

[8] This has been documented by Baisre J. A.2018. An overview of Cuban commercial marine fisheries: the last 80 years. Bull. Mar. Sci. 94(2):359?375.x

[9] Assembled from the records of the Complementary Statistical Information System (SIE-C) of the GEIA (Business Group of the Food Industry) from 2009-2017 and the Statistical Yearbook of the Ministry of the Fishing Industry (MIP) from 1959-2008.

[10] The information used was found in the records of the Complementary Statistical Information System (SIEC) of the GEIA (Business Group of the Food Industry) from 2009-2017.

[11] Assembled from the records of the Complementary Statistical Information System (SIE-C) of the GEIA (Business Group of the Food Industry) from 2009-2018 and the Statistical Yearbook of the Ministry of the Fishing Industry (MIP) from 1981-2008.

[12]Baisre J. A. 2004. Sea fishing in Cuba. Scientific Technical Publishing House (Havana), 372 p

[13] Assembled from the records of the Complementary Statistical Information System (SIE-C) of the GEIA (Business Group of the Food Industry) from 2009-2017 and the Statistical Yearbook of the Ministry of the Fishing Industry (MIP) from 1959-2008.

[14] Gim?nez E., Ramos I. y Valle S. 2016. Analysis of the fishing productivity of the south-eastern shelf of Cuba. Rev. Cub. Inv. Pesq. 33(1), ISSN 0138-8452, pp.

[15] Claro, R. (2007) The marine biodiversity of Cuba. Institute of Oceanology, Havana, Cuba, CD-ROM.

[16]Baisre JA. 2018. An overview of Cuban commercial marine fisheries: the last 80 years. Bull. Mar. Sci. 94(2):359?375.

[17] Gillett, R. 2010.: Global study on shrimp fisheries. FAO FisheriesTechnicalDocument. Roma, FAO. No. 475 (386 pp.).

[18] Mc Connaughey, R.A., K.L. Mier y C.B. Dew (2000): An examination of chronic trawling effects on soft-bottom benthos of the eastern Bering Sea. *ICES J. Marine Science*, 57: 1377?1388.

[19] MINAL (2009). Minimum sizes of aquatic species of the Cuban Platform. Fisheries and Science Regulations Division. Ministry of the Food Industry. Resolution 126/09

[20] The currently overfished marine fisheries will be brought to more sustainable levels through a series of actions, such as a 20% reduction in the catch quota for pink shrimp, based on the average catch 2017-2018 (126.8 t), by the provisions of Goal 4 A, of the National Program on Biological Diversity of the Republic of Cuba 2016-2020.

[21] Chopin, T., Robinson, S.M.C., Troell, M., Neori, A., Buschmann, A.H. & Fang, J. 2008. Multi-trophic integration for sustainable marine aquaculture, pp. 2463-2475. In: The Encyclopedia of Ecology. Ecological Engineering (Vol. 3); S.E. J?rgensen and B.D. Fath (eds.). Elsevier, Oxford.; Soto, D. (ed.). 2009. Integrated mariculture, a global review; FAO Fisheries and Aquaculture Technical Paper No. 529. Rome, FAO. 2009. 183 pp.; Chopin T. 2013. Integraed Multi-Trophic Aquaculture Ancient, Adaptable Concept Focuses On Ecological Integration. Global aquaculture advocate (pp. 16-19).

[22] FAO. 2011. Aquaculture development. Ecosystem approach to aquaculture. FAO Technical Guidelines for Responsible Fisheries. No. 5, Suppl. 4. Rome, Italy. 60p. ISBN 978-92-5-306650-6.

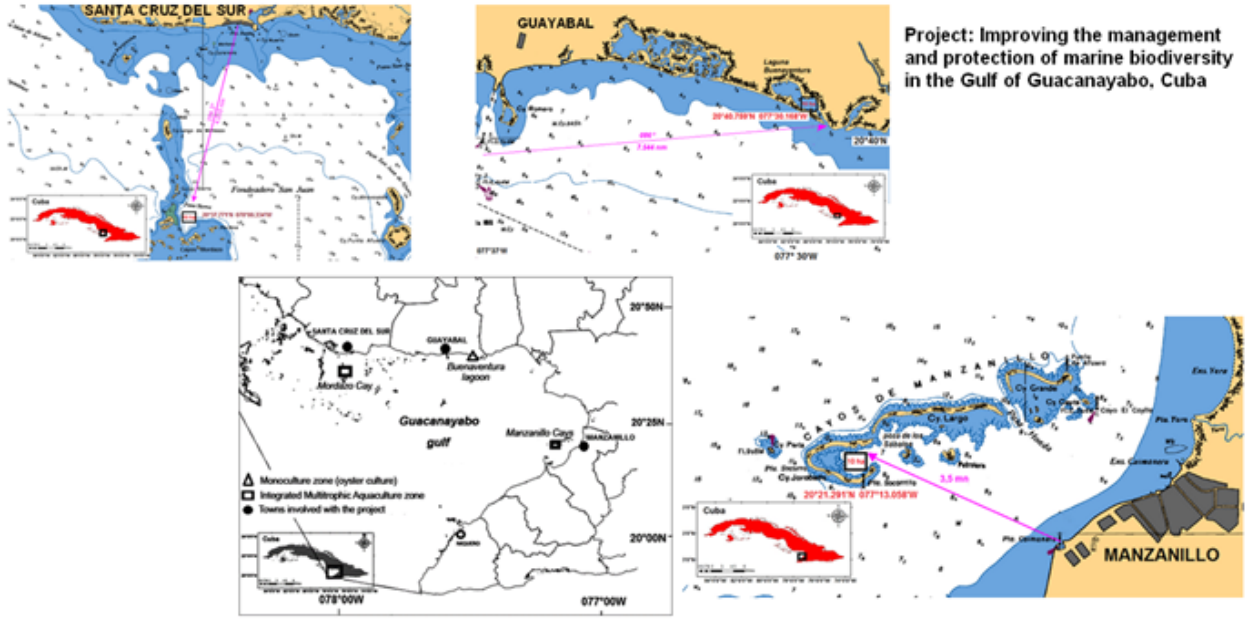
[23] All fisheries management plans will include a gender-sensitive perspective.

[24] Regarding output 1.2.2, after conducting a socio-environmental project risk assessment during design, the project proponents do not foreseen any risk of conflagration between men and women. Young people are considered as vulnerable group, as well as women. In both cases, disaggregated data will inform targeted project interventions to reduce age and gender gaps and avoid the creation of new breaches. Young people will be incentivize to take on leading roles, in order to ensure social and economic sustainability in the mid- to long-term.

[25] Stafford Smith, M. 2020. Theory of Change Primer, A STAP Advisory Document. Scientific and Technical Advisory Panel to the Global Environment Facility. Washington, D.C; Pringle P, Thomas A. (2020). Climate Adaptation and Theory of Change: Making it work for you. A practical guide for Small Island Developing States (SIDS). Climate Analytics; Rogers, P. (2014). La teor?a del cambio, S?ntesis metodol?gicas: evaluaci?n de impacto n.? 2, Centro de Investigaciones de UNICEF, Florencia; Retolaza-Eguren, I. (2010). Teor?a de cambio. Un enfoque de pensamiento-acci?n para navegar en la complejidad de los procesos de cambio social. PNUD/Hivos.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.



122. See additional figures with Project intervention sites in Annex E: Project Map (s) and Coordinates.

Characterization of project intervention areas

Location (province/ municipality)	**Camag?ey/ Santa Cruz del Sur**	**Las Tunas/ Amancio/ Guayabal**	**Granma/ Manzanillo**
Geographic area and relevance	1,237,84 km2	8,52 km2	498.95 km2
Main economic activities.	Fishing, Fishing Industry, Shrimp farming and Feed Mills, Sugar and Agro-Industrial activity.	Fishing, Fishing Industry and shipment of sugar in bulk	Fishing, Fishing Industry, Iron and Steel Industry and Agroindustry.
Amount of Population.	43,229[1]	38,111[2]	128,667[3]
Local stakeholders relevant to theProject.	CAM, EPISUR, CITMA, MINAG, INRH, Marine Culture Experimental Station (CIP), Directorate of Border Guard Troops and IPF.	UEB Guayabal, CAM, INRH, MINAG, CITMA, Directorate of Border Guard Troops and IPF.	CAM, EPIGRAN, CITMA, INRH, MINAG, Directorate of Border Guard Troops and IPF.

Migratory balances and internal and external migration rates[4]	Period 2012 -2017Total average migration rate -13%; average internal migration rate -12%; average external migration rate -1, 0%.	Period 2015 - 2017: Total average migration rate -13.1%; average internal migration rate -10.1%; average external migration rate -3%.	Period 2012-2017 Total average migration rate -7.2%; average internal migration rate -6%; average external migration rate -1, 2%.

[1]StatisticalYearbook Camag?ey Santa Cruz del Sur 2017. 2018Edition

[2]StatisticalYearbook Las Tunas Amancio 2017. 2018 Edition

[3]StatisticalYearbook Granma Manzanillo 2017. 2018 Edition

[4] Statistical Yearbook Santa Cruz del Sur, Amancio, Manzanillo 2017. 2018 Edition

1c. Child Project?

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

N/A

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

The stakeholder consultation process held during full project preparation is described in Annex I2 (Uploaded document under the "Documentation" tab)

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Main stakeholders of the Project

Stakeholders	Interest / Role in the preparation and design of the Project

Ministry of Food Industry (MINAL)	Member of the Steering Committee, will act as Operational Partner of the Project. MINAL is responsible for proposing the fisheries policy and, once approved, leads and manages it, implements it. The Directorate of Fisheries Regulations and Science is in charge of directing and controlling the policy, implementing and controlling the National System of Science and Technology, Innovation and Environment, and the principles of Biological Safety, in the interest of satisfying public and state needs. Member of the Steering Committee. The National Office of State Inspection (ONIE) is the national authority empowered to grant fishing licences and apply regulatory measures as appropriate. It executes the fisheries inspection actions to prevent and address violations to the fishing regime established in the Law, in its regulations and in the other applicable administrative provisions. Responsibility in the Project: Promotes the results, recommendations and lessons learned from the Project and discusses project recommendations with other sectors, aimed at the protection of marine-coastal biodiversity and the sustainability of fisheries production. It will implement the control and compliance of the regulatory measures derived from the Project.
Fisheries Research Centre (CIP)	Member of the Steering Committee. Its mission is research, provide scientific-technical services and technological transfers on the management, cultivation and industrial processing of aquatic organisms, which prompt socio-economic benefits, with sustainable criteria, within a system of self-management and quality. Responsibility in the Project: Main executor of the Project. Coordinates, advises and controls the execution of the Project. Guarantees the communication and visibility of the Project results. It develops recommendations for horizontal scaling (aftershocks) and vertical scaling (strengthening the legal and regulatory framework for EEPA). The CIP Marine Culture Experimental Station, in Santa Cruz del Sur, will support the development of Integrated Multitrophic Aquaculture in that territory. Coordinate the implementation of the Green Recovery Plan

Food Industry Business Group (GEIA)	GEIA. Member of the Steering Committee. Higher Organization of Business Management (OSDE). Directs and controls the activities and processes carried out in the business system. Responsibility inthe Project: Implementing climate-resilient and sustainable livelihood alternatives in the fishing companies (of scale and shrimp) of the Gulf of Guacanayabo. Industrial Fishing Company of Santa Cruz del Sur (EPISUR), Camag?ey Responsibility in the Project: Executor of the Project in the province of Camag?ey. Incorporate EAFA into business development plans. It implementsintegrated multitrophic aquaculture alternatives (IMTA), on a pilot scale in CayoMordazos, and actions to improve the value chain of local fishing productions and the supply of raw materials to the fishing industry. It implements mini-industry for food processing for marine aquaculture. Expands current practices for oyster shell use. Locally implement the Green Recovery Action Plan. UEB Guayabal belonging to the Industrial Fishing Company of Las Tunas (PESCATUN), Las Tunas Responsibility in the Project: Executor of the Project in the province of Las Tunas. Incorporate EAFA into business development plans. It implements monospecific aquaculture alternatives (oysters) on new grounds and actions to improve the value chain of local fisheries productions and raw material supply to the fishing industries. Extends current practices for oyster shell use. It enhances the quality of production and by-product processing capacity. Locally implement the Green Recovery Action Plan. Industrial Fishing Company of Manzanillo (EPIGRAN), Granma Responsibility in the Project: Project Executor in the province of Granma. Incorporates the EAFA into the business development plans. It implements integrated multitrophic aquaculture alternatives (IMTA), on a pilot scale in Posa de los S?balos (Cayos de Manzanillo), and carries out actions to improve the value chain of local fishing productions and supply of raw materials to the fishing industry. It implements mini-industry for food processing for marine aquaculture. Locally implement the Green Recovery Action Plan.
Ministry of Foreign Trade and Foreign Investment (MINCEX)	Member of the Steering Committee. MINCEX is the governing and coordinating body of international cooperation, responsible for defining national priorities for cooperation, as well as evaluating and monitoring the achievements with respect to the defined objectives

Ministry of Science, Technology and Environment (CITMA)	Member of the Steering Committee. It has the mission of directing, executing and controlling the State and Government policy in matters of science, technology and the environment; the use of nuclear energy, standardization, metrology and quality control, and promoting their coherent integration to contribute to the sustainable development of the country. Other responsibilities and actions relevant to the Project include: - Validate the ecosystem approach in the sectoral management of natural resources. - Coordinate the Hazard, Vulnerability and Risk Assessment and the Macro project, related to the State Plan for Confronting Climate Change at the national level. - Research on the knowledge, management, conservation, sustainable use and rehabilitation of the natural resources and processes of the marine and coastal zone as well as current and future risks. - Develop capacities based on disaster risk reduction and ACC. - Provide information on municipal coastal vulnerabilities and the impacts of sea-level rise. It has facilities, equipment and personnel for evaluating the state of the marine-coastal ecosystems in the Project's intervention area. Its Provincial Delegations (DP-CITMA), represent CITMA before the territorial authorities, the organisms, associations, organizations and institutions of the territory. Implements and controls the tasks of the State Plan at the territorial level. Supervises and controls the actions of the Project, in support of the territorial implementation of Life Task.
Ministry of Agriculture (MINAG)	Member of the Steering Committee. It is the governing body for the management of soils, forests and of terrestrial wild fauna and flora. Its State Forest Service is the authority in charge of exercising state control over compliance with forest heritage regulations and other measures adopted for its conservation, management and sustainable development, by natural and legal persons obligated to do so, including the protection of mangroves, vegetation in protected areas of reservoirs and river channels, and the preservation of forest ecosystems and their services. The Delegations of the Ministry of Agriculture will have the mission of exercising control over compliance with State and Government policies in the provinces and municipalities, concerning agricultural and forestry production, land ownership and possession, as well as its sustainable use; conservation, use and improvement of soils; plant and animal health; the registry and statistical control of livestock heritage; control of forest heritage and wild flora and fauna; mechanization, irrigation and agricultural drainage; animal genetics and animal genetic resources; seeds and plant genetic resources; as well as the promotion and development of the cooperative movement in the agricultural and sugar sectors. It represents an essential stakeholder in intersectoral coordination for the protection and sustainable use of marine-coastal ecosystems.

National Institute of Hydraulic Resources (INRH)	Member of the Steering Committee. INRH is responsible for land water management. It is in charge of directing, executing and controlling the application of the State and Government policy in water resources activities in the country. In coordination with relevant organizations, INRH organizes and directs the protection of terrestrial waters, basins, natural channels, works and hydraulic installations against the dangers of contamination, silting and other forms of degradation and deterioration, as well as the systematic control of water quality. INRH and relevant organizationsalso determine the necessary regulations for the protection of the economic, social objectives and the natural environment, from the harmful effects that the terrestrial waters could cause, establishing the organization, assurance and control actions that guarantee safety. and the correct operation of hydraulic installations, flood protection works, underground drainage and the ability to conduct natural or artificial channels. It represents an essential stakeholder in intersectoral coordination for the protection and sustainable use of marine-coastal ecosystems.
Institute of Physical Planning (IPF)	Member of the Steering Committee. The Institute of Physical Planning is in charge of directing the application of State and Government policy in matters of land use, urban planning, design and architecture, and the cadastre. Municipal Directorate of Physical Planning (DM-IPF). Prepares and controls the territorial ordering of the IPF. It represents an essential stakeholder for the authorization of micro-locations and permits for territorial and sectoral development activities.
Ministry of Interior (MININT)	The Border Guard Troops Directorate (DTG) is in charge of the national security of the Cuban coasts and territorial sea. It manages the permits and control of state, non-state commercial and sport fishing vessels and collaborates in guaranteeing compliance with the regulations established on fishing resources, as well as the elimination of poaching, in coordination with the ONIE. It represents an essential stakeholder in intersectoral coordination for the protection and sustainable use of marine-coastal ecosystems.
Organs of the Government of Popular Power	It represents the State, and its fundamental mission is the economic and social development of the territory, in accordance with the general objectives of the country. It acts as coordinator between the central structures of the State and the municipalities, contributing to the harmonisation of the province and municipalities interests. It also exercises the powers and functions recognised in the Constitution and the Law. Supports and controls the implementation of the Project's actions at the provincial level. Its Municipal Administration Council (CAM) has the essential objective of satisfying, among others, the needs of the economy, health, healthcare, education, culture, sports and recreation of the community of the territory to which its jurisdiction extends, as well as performing tasks related to prevention and social care. Supports and controls the implementation of the Project's actions at the Municipal level.

Ministry of Higher Education (MES)	It is the body in charge of directing, proposing, executing and controlling the State and government policy regarding higher education. As part of its structure, the Municipal University Centres (CUM) formulate undergraduate and postgraduate studies with a marked local character, in coordination with the productive sector. Contributes to capacity building on the sectoral ecosystem approach at the local level.
Media	Local radio, local television and the local print press. Contribute to the visibility and dissemination of the results and lessons learned from the Project.
FAO	Member of the Steering Committee. Provides technical assistance for the preparation and implementation of the Project. Controls the implementation of the Project and its correspondence with national priorities and with the priorities of the GEF.
UNESCO	Provides support in environmental education activities, technical assistance and work in coastal communities, in synergy with the Intergovernmental Oceanographic Commission (COI).

Direct beneficiaries of the Project

123. The **Gender** Analysis conducted during full project preparation has found that 23% of workers in the GGE fishing industry are women. However, the participation of women is not homogenous. They tend to be absent in the extractive activity, while have stronger role in the fishing processing. Project activities are designed to reduce the existing gender gaps and avoid creating new ones. The project will support the creation of mini-industries that engage at least 40% of female workers as requirement. Knowledge management activities has already a predominance of women among participants (see Component 1). Project actions will make possible to reduce gender gaps in labor access and will support knowledge dissemination for women in the fishing sector by 46%.

124. The number of **direct beneficiaries (GEF core indicator 11)** is calculated taking into account the strengthening of the participation of women in the processing industry and mini-industries of the project, which is a key objective of Component 2. Benefits will be generated through training and employment. Other community actors are included as beneficiaries through capacity building activities

The direct beneficiaries are detailed in the following table:

Table 1: Project Direct Beneficiaries, disaggregated by gender

Direct Beneficiaries	**Men**				**Women**				**TOTAL**
	6-17 years	**18-65 years**	**> 65 years**	**Sub-total men**	**6-17 years**	**18-65 years**	**> 65 years**	**Sub-total women**	
MINAL entitites	_	2463	257	2,720	_	1051	22	1073	**3793**
Comunities *	13190	6778	672	20640	12279	6114	659	19,052	**39,692**
Total beneficiaries	13190	9241	929	**23360**	12279	7165	681	**20,125**	**43,485**

For the calculation of communities direct beneficiaries, 60% of the student potential was taken into account, 10% for adults aged between 18 and 65 years and 5% for people over 65 years.

125. The workers belonging to the fishing companies of Camag?ey, Las Tunas and Granma and their relatives (assuming that an average family is made up of five members) are considered Direct Beneficiaries of the Project, thanks to the income from climate-resilient livelihoods. The workers of the Fisheries Research Centre are also considered Direct Beneficiaries, due to the institutional strengthening they will receive, as well as the people who will receive the direct training promoted by the Project.

126. In its design, the Project considers livelihood alternatives for the conservation and sustainable use of marine-coastal biodiversity. These alternatives will enable productivity increases and allow diversification of the livelihoods of coastal communities and their resilience to climate variability, the strengthening of local mini-industries and the improvement of the value chains of local productions, with gender equity. Additional benefits include increased knowledge management in the Ecosystem Approach to Fisheries and Aquaculture (EAFA), with an integrated environmental education and training program for key territorial actors in the environmental and productive sectors, and technical experts from local governments and communities, for the protection of the ecosystem and supporting the sustainability of associated resources, strengthening the legal and regulatory base and raising awareness of gender perspectives.

Indirect beneficiaries of the Project

127. It is estimated that the Project will indirectly benefit 209,607 people, of whom 103,081 are women and 106,427 are men.

Municipality	**Men**				**Women**				**TOTAL**
	< 18 years	**18-65 years**	**> 65 years**	**Sub-total men**	**< 18 years**	**18-65 years**	**> 65 years**	**Sub-total women**	
Manzanillo[3]	13,693	41,851	8,035	63,579	12,841	41,752	9,732	63,928	127,904
Amancio (Guayabal)[4]	4,354	12,421	2,543	19,318	3,945	12,028	2,574	18,547	37,865
Santa Cruz del Sur[5]	5,094	13,513	2,856	21,465	4,746	7,358	2,881	20,606	42,075
TOTAL	23,141	67,785	13,434	106,427	21,542	61,138	15,187	103,081	209,607

128. The population data used for the calculation of the indirect beneficiaries of the municipalities, was taken from that reported by the ONEI, and the male and female workers of the companies, aged between 18-65 years and older than 65 years, were removed to avoid duplication. 100% was considered for training in the case of ages under 18 years, which represents the different teaching levels of each territory.

129. Partners: CITMA, MINAG, INRH, MINED, MES, OLPP, UNICEF.

130. Others: Suppliers of goods or services for the execution of the Project.

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[1] Data provided by Human Resources of EPIGRAN, PESCATUN, UEB Guayabal and EPISUR, CIP, with closure 2019.

[2] To calculate the direct beneficiaries trained in the fishing companies, 25% of the total workers were considered, mainly in the technical areas, of quality, capture and production bureau, in relation to the

number of men and women comprised of 18 -65 years. For people over 65 years, 5% was considered. In the case of PESCATUN, 15% of the total workers in the technical and productive areas were estimated in relation to men and women aged 18-65 years and for over 65 years, 5% were considered. In the case of CIP, 30% of workers related to investigations will receive training actions.

[3]Statistic yearbook Granma Manzanillo 2017. 2018 Edition
[4] Statistic yearbook Las Tunas Amancio 2017. 2018 Edition
[5]Statistic yearbook Camag?ey Santa Cruz del Sur 2017. 2018 Edition

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain) Yes

The Project will introduce management models that combine institutional action with the community activity, allowing the joint efforts of the government and civil society.

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

132. There are 3,320 workers in the Gulf fishing sector (766 (23%) women and 2,554 (77%) men).

133. In general, 75% of managers in the Gulf are men and 25% are women. The Project acknowledges the necessity to foster dialogue on the issue of gender equality within the industry, as a key element for social sustainability.

134. Provisional estimates show that of 72 % the total beneficiaries of the training activity will be men, and 28% women.

135. During the consultations to identify stakeholders, there was a participation rate of 62% men and 38% women, reflecting the predominance of men in the fishing industry workforce. Although this is a better balance than industry participation rates, strengthening the empowerment of women in the sector is necessary.

136. The gender approach was addressed through the consultations, with the aim of carrying out gender analysis/gender diagnosis, to identify gaps in the intervention territories.

137. The Project's gender analysis includes data reported in the literature monitoring and evaluating gender in fisheries and aquaculture and was informed bylabour force data broken down by gender and age groups of the fishing companies of the Gulf of Guacanayabo.

Gaps identified in the fishing companies of the Gulf of Guacanayabo

Entities MINAL	**Identified Gaps**
Industrial Fishing Company of Granma (EPIGRAN)	The company's workforce is 72.9% male and 27.1 female. Women are not well represented in management positions (88.4% male and 11.6% female).
Industrial Fishing Company of Las Tunas (PESCATUN) UEB Guayabal	71.6% of the workforce are male, and 28.4% are female. Women are not well represented in management positions (73% maleand 27% female). The UEB workforce in Guayabal is made up of 69.9% male, and 30.1% female, with no womenleaders infishing activity.
Industrial Fishing Company of Santa Cruz del Sur EPISUR	The company's workforce is 76.6%men and 23.4%.women. 66% of managers are male and 34% female. The principal manager of this company is a woman.

138. Male workersdominate thefishing companies in the Gulf of Guacanayabo, except in the processing area where the workforce ispredominantlyfemale. This will be one of the critical spaces for project interventions to improve the representation of women and develop activities in the processing area to improve the livelihoods of women and close gender gaps.

139. Statistical data on the composition of men and women working in the sector are not reported in the national statistical information, which is considered a factor that underestimatesgender gaps.[1]Therefore, it is necessary to integrate statistics with a gender perspective into the Government Information System. However, these alone do not guarantee an adequate reading of gender, or of the particular causes or problems that may be affecting women.

140. During the consultation, it was learned that women aregenerally hired for the processing area of the industry in the peak stages of fishing seasons. This variability in women?s employment affects their visibility in the sector.

141. The main gender gaps are identified below.

Main gender gaps identified and actions to reduce them

Identified Gaps	**Actions**[2]

Insufficient participation of women in decision-making.	Promote women and young people to managerial positions in the technical, economic and administrative spheres, to increase the presence of women in management positions in the fishing activity in Manzanillo. Promote women and young people to leadership positions, to improve gender equality in Guayabal. Increase the presence of women and youth in managerial positions in the technical, economic and administrative spheres in the fishing company of Santa Cruz del Sur. Promote gender awareness in companies to increase the incorporation of women into management positions and reserved administrative positions.
Insufficient disaggregation of statistical data on the composition by genders and age groups of the fishing workforce and the processing industry.	Promote the disaggregation of statistical information, by gender and age group and its incorporation into the Government Information System. Incorporate up to 40% of the new jobs for women, in the mini-industry of food production for aquaculture and in the value chain of artisanal fisheries productions. The indicators of the Project's logical framework are disaggregated by gender and age group whenever possible.
Less access to knowledge by women.	Prioritize the training of women in issues of biodiversity, Integrated Multitrophic Aquaculture (IMTA) and gender. This is a valid action for both the communities and the fishing sector.

142. Based on the collected information, a Gender Action Plan (GAP) was prepared, containing recommendations to reduce the identified gaps and improve gender sensitivity in the logical framework indicators developed during the Project design.

143. The GAP guarantees the inclusion of gender issues in all the components and products of the Project andwillcontribute to reducing unequal access to socio-economic benefits and other services. The GAPwill use thedisaggregation of indicators and activities for the processing industry, according to component 2 based on the following actions: increasing women?s participation rate by 40% through the creation of new jobs in the mini-industries for the production of food for aquaculture, with the use of by-products from the fishing industry and other raw materials, and in the value chain of artisanal fishing productions (molluscs, crustaceans and fish).

144. The Project aims to increase women?s empowerment by working withthe fishing industry tochange the current balance of men and women in the fishing and aquaculture sector. It is hoped that beyond the life of the Project, more women will be employed, including reservations for administrative positions, and will have benefited from training during the Project.

145. More detailed information on stakeholders, the results of the consultations, and the gender and GAP dimension is presented in Annex I2.

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[1]CEPAL, 2015. Cuba National Report to ECLAC

[2] Actions are identified in the SWOT analysis (Annex I), carried out based on field visits.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Will the project?s results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on private sector engagement in the project, if any

146. TheProject did not consider an explicit intervention withthe private sector during the design phase. However, it is not excluded during implementation. At the same time, the recent Fisheries Law recognises the ?non-state commercial fishing? as a category, and defines it as fishing activity, aquaculture or shelf, characterised by obtaining specific volumes of catch for subsequent marketing, carried out by natural or legal persons, national or foreign, that can be carried out as an activity on its own account and by other forms of non-state management. During the visits made to the intervention sites, non-commercial state fishers participated, contributing criteria which was taken into account in the preparation of the SWOT matrices by municipalities, and the design of the proposed interventions.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Section A. Risks to the project

RISKS	ASSESSMENT *	RISK MITIGATION MEASURES
Human Resources		
High turnover in the personnel that make up the Project team. Lack of specialists in some areas of knowledge required by the Project.	L	Rigorous selection and training processes will be carried out for the members of the Project team, including the technical and time requirements in the TOR for each position. International capacities will be used, which will also strengthen national institutional capacities.
Financial Management		

Difficulties in budget planning and execution.	L	A Financial Assistant with the required background and training in project management, procurement, and narrative-financial reporting will be appointed.
Procurement		
Delay in the arrival of the required equipment and supplies.	M	From the planning of the Project, the national mechanisms and deadlines for imports are taken into account, providing measures to alleviate any setback.
Operations		
Illegal fishing, environmental degradation and vandalism occur in the project intervention areas.	M	The Project will work to strengthen capacities for the control of natural and cultivated fishing resources, with the support of the National Office of State Inspection and the Border Guard Corps. Permanent personnel will be guaranteed at the intervention sites.
Declininginterest of local stakeholders in the development of the Project.	L	Incentives for the development of new productions and the generation of additional sources of income will motivate the interest of local stakeholders, by improving the quality of life of producers, and the community in general. In addition, training and awareness-raising activities will be carried out on the Project's contributions to improving the environment and local fisheries resources. All local stakeholders will be included in these processes, promoting the participation of women and youth. Throughout the process, local experiences will be taken into account, through the relevant consultation mechanisms.
Epidemiology		
The impact of the COVID-19 pandemic hinders the normal development of the Project	L	Under the recovery process, all activities aimed at improving economic and social conditions have a high priority by the government, particularly those related to food production, so that these activities will be prioritized. The Project will take advantage of this to maximize its impacts, including those derived from its replication and escalation. The impact of social distancing measureson some specific elements such as workshops, will be mitigated through organizational measures.
Climate Change		

The impacts of climate change on coastal and marine ecosystems prevent the Project from successfully achieving its objectives of preserving ecosystem functions and improving fish populations, as a result of the frequency of increase and the intensity of extreme weather events, the increase in the annual average temperature, the decrease of the annual average of precipitations, the rise in the sea level and the retreat of the coastal lines.	M	The Project will help increase resilience to the potential impacts of climate change on target fisheries and aquaculture activities, by improving planning, regulations and monitoring, and by reducing habitat degradation due to unsustainable practices, so that these habitats will be more likely to maintain a healthy ecosystem, even in the face of warming waters, greater and more intense storm activity, among other climatic impacts. Local capacities developed from risk management and the institutions that work in this area will be used.
Environmental /ESS2. Biodiversity, Ecosystem and Natural Habitat		
The intervention of the Project in a legally recognizedprotected areawithout the due reconciliation of the administrator of the protected area and its management plan. (Ensenada del Gua and Cayos de Manzanillo protected area, with approved wildlife refuge management category, according to Cuban national legislation).	M	It was evaluated that this category of area, in accordance with national legislation, allows human activities linked to the management of natural resources, provided that certain parameters are taken into account. It was also considered that the implementation of Integrated Multitrophic Aquaculture (IMTA) in this area will be on a demonstrative scale (approximately 350m2) in the buffer zone of the area.It will be developed based on sustainable practices, with a focus to improve the habitat for native species and improve the health of these ecosystems, with the aim of contributing to the conservation of coastal marine biodiversity, through the sustainable management of fisheries resources. Guarantee conciliation with the administrator of the protected area for said intervention. Ensure that the authorities of the protected areas are consulted during all the phases of the Project and criteria are issued during implementation, including the continuous evaluation of risk during the course of the Project and adjust measures if necessary, to guarantee not to affect the habitats or species of the ecosystem. Ensure the consistency of the activities undertaken with the legal requirements of the areas where they are carried out.

Location of demonstration productions in natural habitats: Installation of two integrated multitrophic aquaculture farms, one in the S?balos pool (Cayos de Manzanillo) and another in the inlet of Pasa Sierra (CayosMordazo).	L	They will be implemented on a demonstrative basis, using the best environmental practices. No reduction in biodiversity is foreseen, as these are small areas (each farm will cover an approximate cultivation area of 350 m2), which does not affect the connectivity of the natural environment. Establish strict monitoring of species. Native species will be used. Ensure that the competent authorities of the National System of Protected Areas remain in coordination with the project executor, to ensurethe necessary protection and management measures that guarantee not to affect the habitat or species of the ecosystem.

** Risk Assessment - H (high risk), S (substantial risk), M (moderate risk), and L (low risk).*

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

6.a Institutional arrangements for project implementation.

150. The Fisheries Research Centre (CIP, for its name in Spanish) - Ministry of the Food Industry, will act as the Project Executing Entity in close consultation with other ministries and local governments participating in field activities, and will have the executing and technical responsibility for the Project.

151. The Food and Agriculture Organization of the United Nations (FAO) has been selected by the participating country as the GEF Implementing Agency and as such, will provide project cycle management services as established in the GEF Policy. FAO will be responsible for providing oversight, technical backstopping and supervision of project implementation to ensure that the Project is being carried out in accordance with agreed standards and requirements. Technical backstopping will be provided by FAO in coordination with government representatives participating in the Project Advisory Committee.

152. The project organization structure is as follows (Fig. 6):

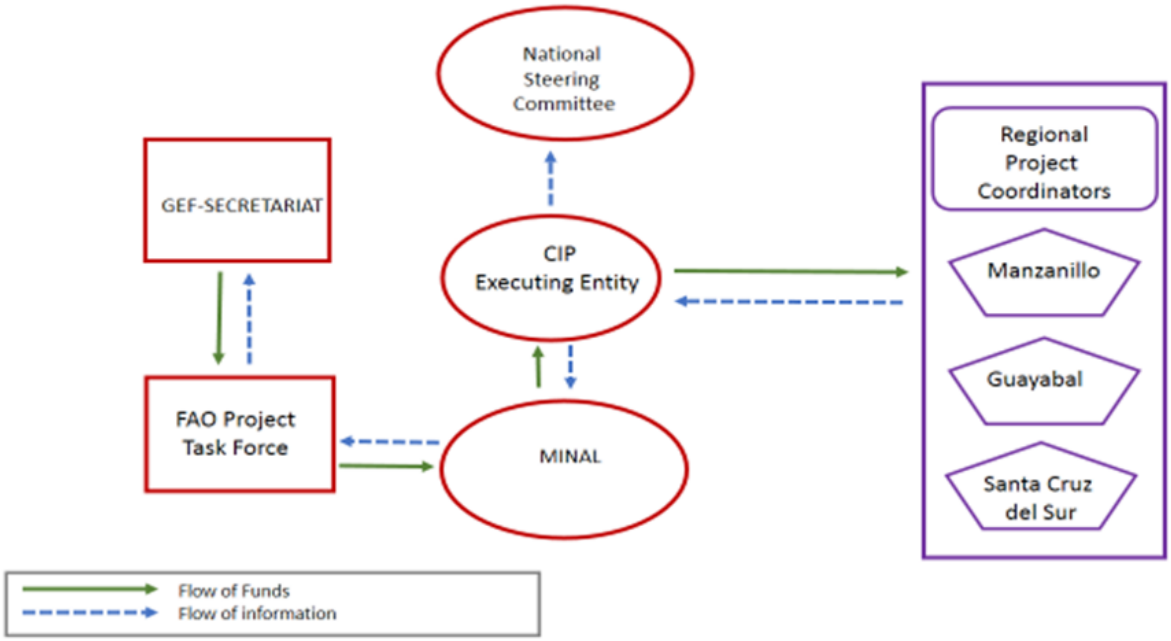

Fig. 6. Project Management Structure

153. A Project Steering Committee (PSC) will be established and co-chaired by FAO and the Fisheries Research Centre (CIP) Director. It will comprise representatives from the Ministry of Environment, Ministry of Food Industry, Ministry of Agriculture, National Institute for Water Resources (INRH), Institute for Land Planning (IPF) and Ministry of International Cooperation and Foreign Investment. The members of the PSC will act as project Focal Point(s) in their respective institutions. As Focal Points, the PSC members will: (i) technically oversee activities in their sector, (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the Project, (iii) facilitate coordination and links between the project activities and the work plan of their agency, and (iv) facilitate the provision of co-financing to the Project.

154. The National Project Coordinator (NPC) will be the Secretary to the PSC. The PSC will meet at least twice a year to ensure: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the Project and other ongoing projects and programmes relevant to the Project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of government partner work under this Project; vi) Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget; vii) Making by consensus, management decisions when guidance is required by the National Project Coordinator.

155. The government will designate a National Project Director (NPD). The NPD will be a CIP staff member and will have the responsibility of supervising and guiding the NPC (see below) on the government?s policies and priorities. They will also be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. They will be responsible for requesting FAO the timely disbursement of GEF resources that will allow the execution of project activities, in strict accordance with the Project Results-Based Budget and the approved annual work plans and budgets (AWP/B) for the current project year.

A Project Management Unit (PMU) will be co-funded by the GEF and established within CIP. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall

efficient management, coordination, implementation and monitoring of the Project through the effective implementation of the AWP/Bs.

156. The PMU will be composed of a National Project Director (NPD) who will work full-time for the project lifetime. In addition, the Component Managers (4), a Planning and Monitoring Manager, an Administrative Manager and a Financial Manager will form part of the PMU. This structure will be in charge of managing the day-to-day implementation of the Project. The NPD will report to the CDN. The PMUwill provide secretariat support tothe PSC.

157. Financial management of GEF resources will be carried out according to FAO and GEF regulations and procedures.

158. In addition, the PMU will have a Territorial Coordination Structure made up of: Municipal Project Directors (1 in each of the three municipalities) and Municipal Component Managers (3 in each of the three municipalities).

6.b Coordination with other relevant GEF-financed projects and other initiatives.

159. UNDP/GEF project in execution ?Incorporating multiple environmental considerations and their economic implications in the management of landscapes, forests and productive sectors in Cuba? (ECOVALOR) (GEF ID 9429), chaired by the National Centre for Protected Areas (CNAP) and financed by the GEF for the period 2018 - 2023. This Project will promote the generation of multiple global environmental benefits (GEBs) based on the economic valuation of ecosystem goods and services, as a tool for decision-making at different levels. Fishing is one of the productive sectors identified by the Project. Theproposed Project will benefit from the management approach promoted by ECOVALOR, based on the conditions of the ecosystem, its goods and services, as well as the associated threats and economic implications and the promotion of the generation of multiple environmental benefits based on the economic valuation of ecosystem goods and services, as a tool for decision-making at different levels.

160. Project in progress ?Fisheries management for a sustainable marine system in Cuba?, led by CIP and financed by the Environmental DefenseFund (EDF) for the period 2020-2022. The project is aimed at the fishing sector involved in the multi-species fish fisheries that develop in the south-eastern shelf of Cuba. The results of this Project will support sustainable fisheries management using priority indicators (e.g. catch per unit effort, fishing mortality, length frequency, etc.) and PSA studies, to develop management plans for multi-species finfish fisheries in the gulfs of Ana Mar?a and Guacanayabo. The network of studies, training, work with the communities and learning derived from this project will facilitate the flow and exchange of information and the alignment of goals with the proposed Project and lay the foundations of sustainable fisheries management in the study area.

161. Project in approval status ?Coastal Resilience to Climate Change in Cuba through Ecosystem-Based Adaptation? (MI COSTA). Presented to the Green Climate Fund by UNDP in 2019, the project will last 8 years. The project responds to the coastal adaptation needs of Cuba due to the increasing frequency of extreme weather as well as rising sea levels. Cuba?s Southern Coast has been selected due to its high vulnerability to climate change. This project will aim to enhance adaptive capacity to such threats by rehabilitating coastal wetlands and protecting and reducing anthropic pressures to coastal ecosystems. This project aims to increase climate change resilience along vulnerable coastal zones by building capacity on climate adaptation focused on ecosystem-based adaptation (EBA), and enhancing information flow between stakeholders.The results of MI COSTA will be reflected in the proposed Project?s strategies and policies as the best alternative for integrated coastal zone management, strengthening communities? and institutions' adaptation knowledge and addressingthe GoC's State Plan to Face Climate Change ?Tarea Vida.?

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

162. The Project is aligned with the CBD which Cuba has ratified. The National Program on Biological Diversity (PNDB) of the Republic of Cuba, which was projected for the period 2016-2020, and likely to extend until 2030 (based on the country's strategic development objectives outlined for this stage), constitutes the main platform of action for the national implementation of the defined biological diversity objectives.

163. In the framework of the proposed Project, the activities and the expected results contribute to a significant number of National Goals for Biological Diversity that are part of the referred Program, since they in turn respond to the Aichi Targets of the COP 10 of the Convention on Biological Diversity. The program highlights Goal 1 (responds to Aichi Goal 1), Goal 2 (responds to Aichi Goal 2): Goal 3 (responds to Aichi Goal 3): Goal 4 (responds to Aichi Targets 6 and 7), Goal 10, on the reduction of multiple anthropogenic pressures on coral reefs, seagrasses, mangroves and beaches, vulnerable to climate change and Goal 18 (responds to Aichi Goal 19).

164. In the 6th National Report to the Convention on Biological Diversity (2018), actions are defined for the implementation of Goal 4, ?The marine, coastal and aquaculture ecosystems are recovered through Sustainable management.? The Report states that the recovery of marine-coastal and aquaculture ecosystems is a priority for an island country like Cuba and that the overexploitation of harvesting activities places strong pressure on these ecosystems worldwide which has drastically reduced the populations of fish, invertebrates and aquatic plants. This also has implications for the nation?s food security. It is closely related to Goal 10 of the PNDB 2016 - 2020. To meet Goal 4, the Report states that it requires carrying out nine (9) actions, all relevant to this Project.

165. Also relevant are the Bases of the National Plan for Economic and Social Development to 2030, which, under its Strategic Axis ?Natural Resources and Environment,?defines a General Objective to ?Guarantee the protection and rational use of natural resources, the conservation of ecosystems, and the care of the environment and the natural heritage of the nation for the benefit of society.? This is expanded in its specific Objective: 4.?Protect biodiversity and sustainably use assets and ecosystem services and the natural heritage of the country, socializing the utility and importance of these for all citizens? and 14 ?Stop the degradation of the coastal zone and marine ecosystems, and adopt measures for their restoration and the sustainable development of fishing, tourism and adaptation to climate change. Reduce coastal vulnerability for settlements threatened by rising sea levels.?

166. The objective of the Project is also related to the Guidelines for the Economic and Social Policy of the Party and the Revolution for the period 2016-2021, in particular Guideline 178: ?Increase the efficiency of fisheries by complying with fishing regulations. Modernize the boats and use selective fishing gear that guarantees the quality of the catches and the preservation of the marine and coastal environment. Increase export earnings, mainly in farmed shrimp.?

167. The Fisheries Policy and the legal framework in this material, the State Plan for Confronting Climate Change - Life Task and the National Action Plan for the Conservation and Management of Chondrichthyans of the Republic of Cuba are also highly relevant.

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

168. Knowledge management is a central part of this Project, with one of its four components dedicated to it.

169. The Project Knowledge Management System will have two instruments for its implementation:

a. The Training Strategy.

b. The Communication Strategy of the Project, with a gender perspective.

170. The Training Strategy will focus on strengthening of:

171. The capacities of research institutes to generate technical knowledge on:

a) Marine-coastal biological diversity. Marine-coastal ecosystems, the goods and services they provide, and actions to protect them.

b) The relationship between marine fisheries and the environment and the sustainability of both.

c) The Ecosystem Approach to Fisheries and Aquaculture.

d) Climatically resilient livelihood alternatives (aquaculture, use of industry by-products, increased value added of local fisheries productions).

e) Strengthening the capacity to mainstream gender.

172. This knowledge will be generated in languages, contents, forms and supports that respond to the characteristics of different target audiences and tools will be generated that make it possible to support decision-making.

173. The capacities to access and make use of the knowledge and tools to support the decision-making of the following target audiences:

a) Project Team (monitoring and evaluation for Results Based Management).

b) Fishing companies.

c) Communities (in modalities of formal secondary, pre-university, technical and university education).

d) Governments.

e) Environmental and regulatory authorities.

f) Sector decision-makers

The capacities to promote access by the different stakeholders to the tools generated by the Project. The promotion of the generation and use of information aligns with the FAO Knowledge Management Strategy[1]. The lessons learned inimplementing the Project will support the Project?s learning processes and will constitute important inputs for the Communication Strategy.Tools will have a gender perspective, to reduce the gap in women's access to information and training, and appropriate mechanisms will be used to facilitate participation.

The organizational, dialogue and influence capacities of the different participants in the Project:

a) Project team

b) Sector representatives

c) Environmental authorities

d) Governments

e) Communities

f) Fishing cooperatives

g) Education

174. These capacities are relevant to guarantee the implementation and sustainability of the Project's interventions. In all cases it will also promote the participation of women linked to the Project.

175. The capacities promoted by the Project, for managing climate-resilient livelihood alternatives in:

a. Fishing companies

b. Fishing cooperatives

c. Government

These capacities are equally relevant to supportthe implementation and sustainability of the Project's interventions.

176. The Project's Communication Strategy, with a gender perspective, will focus on promoting:

177. The replication proposals for other coastal areas of the country, based on the lessons learned during the implementation of the Project interventions:

a) The insertion of the Ecosystem Approach to Fisheries and Aquaculture in business activity.

b) From the implementation of climate-resilient livelihoods in coastal communities.

178. Proposals for insertion of EAFA in sector and territorial policies and plans:

a) Based on the synergy of thisapproach with the State Plan for Confronting Climate Change - Life Task.

179. The Project will apply the Knowledge, Attitude, Practice matrix to evaluate the impacts of the actions of the ?Knowledge Management? component on the different stakeholder groups.

180. The Theory of Change (ToC) will be used as a tool for monitoring, evaluation and learning, as its inherent flexibility is suitable for projects that take into account the varying and uncertain impacts of climate change.

181. The Project will encourage a culture of learning and criticism by using processes, spaces and systems topromote reflection and feedback by project participants at all levels, including implementation partners and stakeholders, beneficiaries, financiers, and members of the Steering Committee.

182. The Reflection After Action (RAC) tool will be used after the Project's semi-annual and annual meetings to support knowledge management. During the RAC exercises, the different Project stakeholders will evaluate what went well and why? What could have been better and why? And what should be done differently and why?

183. The Training Strategy will be prepared during the initiation phase of the Project, based on the specific requirements and potential of each intervention site. The Ministry of Education and the Ministry of Higher Education of each municipality will participate in the developmentof the Strategy. this phase, the The Communication Strategy of the Project will also be developed in the phase and will include a gender perspective.

184. The timetable for obtaining the knowledge management products is detailed in Annex A. Multi-year work plan.

185. It is vital to ensure enhanced visibility, scope and replication of best practices, including those developed by women, and to sensitize decision-makers, communities and producers in order to attain and sustain the proposed transformations.

186. The Fisheries Research Centre has identified a number ofrelevant research projects and collaborations that the Project can draw upon. Among the projects already concluded, which can contribute relevant results and experiences to this Project, the following stand out:

187. Project EP / GLO / 201 / GEF: ?Reduction of the environmental impact of the shrimp trawl fisheries through the introduction of technologies that reduce the by-catch and changes in administration,? financed by GEF / UNEP / FAO and directed by the Fisheries Research Centre during the period 2005 - 2010. This project generated, as a main result, the MINAL resolution 479/09 for the management of the shrimp trawl fisheries in the fishing companies that operate in the Gulf of Ana Mar?a and in the Gulf of Guacanayabo, mainly the obligatory use of the prototype E3 Chinchorro, with fish escape attachments in the shrimp boats. This constitutes a starting point in the present proposed Project for the current evaluation of fisheries in the gulf and the application of this resolution by fishing companies under study. This project also laid the foundations for the study of the by-catchof the pink shrimp fisheries and made recommendations to reduce their incidence: results that will also be applied in the studies, analysis and recommendations carried out by the Project based on the sustainable management of gulf fisheries resources.

188. WWF Project ?Sustainable Development of the Fishing Sector in the Province of Villa Clara?led by the now defunct Ministry of the Fishing Industry (MIP) in the period 2006-2009 with the support of the World Wide Fund for Nature (WWF) and the Canadian Agency for International Development (CAID). With this project, it was possible to eliminate aggressive fishing methods, in particular, the elimination of the trawling bug for the capture of shelf fish at the national level throughnew resolutions issued by the IPM, and the proposal and implementation of alternative environmentally-friendly fisheries such as oyster farming. These experiences that will also be used by the Project both in the analysis of the fisheries and in the implementation of the oyster monoculture farm in Guayabal.

189. UNDP/GEF Project ?Protection of biodiversity in three productive sectors of the Sabana-Camag?ey Archipelago?(CUB / 98 / G32; CUB / 99 / G81) led by CITMA during the 2008-2013 period with GEF financing and CIP participation in various tasks. Although this project was developed in the northern area of the Cuban archipelago, the experiences and results from the studies of stock assessment of fishing resources and the environmental assessment of fishing areas and development of mariculture, will be applied mainly to respond to the objectives proposed in component 1 of the Project. Another result of this project was the implementation and development of a pilot farm for the cultivation of mangrove oysters in Isabela de Sagua, an experience that will also be used by the Project in the implementation of the oyster monoculture farm in Guayabal, as a response to component 2.

190. SOS PESCA Project ?Sustainability of fisheries in a key area of the Caribbean basin and improvement of the quality of life of fishing communities?led by the Directorate of Fisheries Regulations and Science of the Ministry of Food Industry during the period 2012 ? 2016, and financed by COSPE Together for Chance, WWF and the European Union. Under this project, characterization and perception studies were carried out in two coastal communities (Playa Florida and Guayabal) in the south of Cuba, establishing a baseline for future processes of evaluation of behavioural changes in these communities, which directly affect fisheries resources and coastal-marine biological diversity. The results of this project support the proposed Project?sselection of the Guayabal coastal community as it is one most vulnerable and needy in the Gulf of Guacanayabo area. The experiences of SOS PESCA in community work with fishers and managers, aimed to protect marine-coastal habitats and generate new sources of employment in the Guayabal community, and lay the foundations to start a new stage of work with the objective of supporting the local development of the fishing industry. The experience of SOS PESCA in setting up oyster farming in Guayabal will be used by the Project to improve the conditions of the current farm and develop a second farm in order to increase production and provide new sources of local employment. The productivity - susceptibility assessment (PSA) conducted and applied by SOS PESCA is an effective tool for the analysis and identification of species most vulnerable to overfishing. The Project will use the SOS PESCA PSA in the studies of the fishing resources of the Gulf of Guacanayabo and to implement precautionary management measures for the species of greatest concern in the area.

191. Project ?Towards a sustainable management of the shark and ray fisheries in Cuba?, led by the Directorate of Fisheries Regulations and Science of the Ministry of the Food Industry in the period 2015-2019, financed by WWF. The experiences and results of this project will be applied in the fisheries evaluations of the Southern Stingray, a species under study in the proposed Project. The biological studies of populations and management and conservation proposals carried out by this project constitute a basis for the work to be carried out for the protection of this species. The Sharks and Rays project responded to the ?National Action Plan for the management and conservation of Chondrichthyans in the Republic of Cuba

(PAN - Sharks)? and to resolution 25/2015 of the MINAL ?Implementation of the PAN - Sharks in the national territory,? which reference the database and analysis to be used in the proposed Project.

192. Project ?Development of a sustainable marine aquaculture in Cuba,? chaired by CIP, with the participation and advice of the Institute for Marine Research in Bergen, Norway, and financed by the Norwegian Development Agency (NORAD), for the period 2011-2019. This project?s site selection studies for mariculture development, experiences of fish farming in cages in the marine environment, monitoring protocols and market studies for the incorporation of new products in the sector, constitute a fundamental application tool for the goals and objectives to be achieved by the proposedProject.

193. ?REAL Project: Recovery for food,?led by the Food Industry Business Group (GEIA) and financed by the European Union through UNESCO - IHE, for the period 2013-2017. This project aimed, as a main contribution, to strengthen the Cuban food production sector with special emphasis on the food processing industries and the aquaculture sector. The proposed Project will draw on the results of this project?s findings and experiences in food formulations for fish (formulated feed) produced from waste recovered from the food processing industries. This is a fundamental tool of technology transfer for the implementation of the mini-industries that will be used in the IMTA and in the development of the new capacities training system.

194. Project ?Improvement of the productivity and competitiveness of the fishing value chains in the Latin American and Caribbean region,? led by the Food Industry Business Group (GEIA) and financed by the OPEC Fund for International Development (OFID) and the UNIDO Trust Fund for LAC for the period 2017-2019, aimed at improving competitiveness and economic income and regional integration of the shrimp farming sector. With this project, it was possible to increase productivity and efficiency in the production and processing of farmed shrimp with the application of new technologies and the use of renewable energy (automatic solar feeders). It also strengthened the articulation of stakeholders in the different segments of the shrimp value chains in Cuba and Caribbean countries; established exchange of knowledge and technologies for shrimp farming, processing and marketing; improved the economic income of all the stakeholders; and promoted regional integration. This project?s experiences and results on training topics for direct and indirect stakeholders, advanced technologies in shrimp farming and industrial processing, and the strengthening of disease surveillance plans, constitute important bases for the development of different objectives and activities of the proposed Project linked to shrimp farming; to the production diversification work; and to the strengthening of the value chain of the fishing productions.

195. The Project will coordinate actions with another 4 projects being implemented in Cuba with GEF funds (ECOVALOR, Connecting Landscapes, others) as well as with other related projects being implemented by FAO in the region in order to benefit fromlessons learned, the experiences and the knowledge generated.

196. Exchanges and guidance activities are foreseen and the spaces and facilities provided by FAO for information sharing will be used. The improvement of inter-institutional coordination, integration and exchange of information, will facilitate knowledge management processes. As part of the design, the Project will include concrete information and knowledge dissemination actions; the drafting of bulletins, the creation of databases and the use of the research entities?websites to manage the new knowledge produced and systematized in programs, manuals, methodological guidelines, and other documents resulting from the Project?simplementation.Regular identification and analysis of lessons learned will be conductedto facilitate progress and success of the Project.

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[1] FAO. 2011. FAO Knowledge Strategy

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Reporting schedules

197. Specific reports that will be prepared under the monitoring and evaluation program are:

a. Project inception report

b. Annual Work Plan and Budget (AWP/B)

c. Project Progress Reports (PPRs)

d. Annual Project Implementation Review (PIR)

e. Technical reports

f. Co-financing reports

g. Final Report.

198. In addition, the GEF core indicators will be reported tracking progress against project baseline (PY 0).

199. Project Inception Report. After FAO internal approval of the Project an inception workshop will be held. Immediately after the workshop, the National Project Coordinator (NPC) will prepare a project inception report in consultation with the FAO Representation in the country and other project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B and the M&E Matrix. The draft inception report will be circulated to FAO and to the Project Steering Committee (PSC) members, for review and comments before its finalization, no later than three months after project start-up.

200. Annual Work Plan and Budget(s) (AWP/Bs). The NPC will present a draft AWP/B to the PSC no later than 10 December of each year. The AWP/B should include detailed activities to be implemented by project outcomes and outputs and divided into monthly timeframes and targets, and milestone dates for output and outcome indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included, together with all monitoring and supervision activities required during the year. The FAO Representation in in the country will circulate the draft AWP/B to the FAO Project Task Force and will consolidate and submit FAO comments. The AWP/B will be reviewed by the PSC and the NPC will incorporate any comments. The final AWP/B will be sent to the PSC for approval and to FAO for final no-objection.

201. Project Progress Reports (PPR). The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the Project Results Framework (Annex A), AWP/B and M&E Plan. Each semester the NPC will prepare a draft PPR, and will collect and consolidate any comments from the FAO PTF. The NPC will submit the final PPRs to the FAO Representative in the country every six months, prior to 10 June (covering the period between January and June) and before 10 December (covering the period between July and December). The July-December report should be accompanied by the updated AWP/B for the following Project Year (PY) for review and no-objection by the FAO PTF.

202. Annual Project Implementation Review (PIR). The NPC, in coordination with the national project partners, will prepare a draft annual PIR report covering the period July (the previous year) through June (current year) no later than July 1st every year. The Lead Technical Officer (LTO) will finalize the PIR and will submit it to the FAO-GEF Coordination Unit for review by July 5th. The FAO-GEF Coordination Unit and the LTO will discuss the PIR and the ratings. The LTO is responsible for conducting the final review and providing the technical clearance to the PIR(s). The LTO will submit the final version of the PIR to the FAO-GEF Coordination Unit for final approval. The FAO-GEF Coordination Unit will then submit the PIR(s) to the GEF Secretariat and the GEF Independent Evaluation Office as part of the Annual Monitoring Review of the FAO-GEF portfolio.

203. Technical reports. The technical reports will be prepared as part of the project outputs and will document and disseminate lessons learned. Drafts of all technical reports must be submitted by the NPC to the PSC and FAO Representation in the country, which in turn will be shared with the LTO for

review and approval and to the FAO-GEF Coordination Unit for information and comments before finalization and publication. Copies of the technical reports will be distributed to the Liaison Committee and the PSC and other project stakeholders, as appropriate.

204. Co-financing reports. The NPC will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all the project co-financiers and eventual other new partners not foreseen in the Project Document. Every year, the NPC will submit the report to the FAO Representation in the country before June 10, covering the period July (the previous year) through June (current year). This information will be used in the PIRs.

205. GEF 7 Core Indicators. In compliance with GEF policies and procedures, tracking tools on a given focal area should be sent to the GEF Secretariat in three stages: (i) with the project approval document by the GEF CEO Endorsement; (ii) in the mid-term of the Project; and (iii) with the terminal evaluation of the Project.

206. Final Report. Within two months prior to the Project?s completion date, the Project Coordinator will submit to the PSC and FAO Representation in the country, a draft final report. The main purpose of the final report is to give guidance to authorities (ministerial or senior government level) on the policy decisions required for the follow-up of the Project, and to provide the donor with information on how the funds were utilized. Therefore, the terminal report is a concise account of the main outputs, outcomes, conclusions and recommendations of the Project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for ensuring sustainability of project results. Work is assessed, lessons learned are summarized, and recommendations are expressed in terms of their application to the integrated landscape management in the context of the development priorities at national and departmental levels, as well as in practical execution terms. This report will specifically include the findings of the terminal evaluation. A project evaluation meeting will be held to discuss the draft final report with the PSC and the Project Liaison Committee before completion by the Coordinator and approval by FAO-GEF Coordination Unit.

Evaluation provisions

207. The GEF evaluation policy foresees that all medium and large size projects require a separate terminal evaluation. Such evaluation provides: i) accountability on results, processes, and performance; ii) recommendations to improve the sustainability of the results achieved and iii) lessons learned as an evidence-base for decision-making to be shared with all stakeholders (government, execution agency, other national partners, the GEF and FAO) to improve the performance of future projects.

208. The Budget Holder (BH) will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED and will be responsible for quality assurance. Independent external evaluators will conduct the terminal evaluation of the project taking into account the ?GEF Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-sized Projects.?. FAO Office of Evaluation (OED) will provide technical assistance throughout the evaluation process, via the OED Decentralized Evaluation Support team ? in particular, it will also give quality assurance feedback on: selection of the external evaluators, Terms of Reference of the evaluation, draft and final report. OED will be responsible for the quality assessment of the terminal evaluation report, including the GEF ratings.

209. After the completion of the terminal evaluation, the BH will be responsible to prepare the management response to the evaluation within 4 weeks and share it with national partners, GEF OFP, OED and the FAO-GEF CU.

Monitoring and Evaluation Summary

M&E Activity	Responsible parties	Time frame/ Periodicity	Budget
Inception workshop.	National Project Coordinator (NPC) (Support from Lead Technical Officer - LTO and FAO-GEF Coordination Unit).	In the first quarter of PY1	5,000
Project Inception report.	NPC, M&E expert, with clearance by LTO, and FAO.	In the first quarter of PY1	
Project level impact monitoring.	NPC, project partners, local organizations.	Continuous.	PMU time and meetings covered by the project budget.
Field level impact monitoring.	NPC, project partners, local organizations.	Continuous.	
Supervision visits and rating of progress in PPRs and PIRs.	NPC, FAO Sub-regional Office and LTO.	Annual, or as needed.	FAO visits will be borne by GEF agency fees.
Project Progress Reports (PPRs).	NPC, with stakeholder contributions and other participating institutions.	Six-monthly	PMU time covered by the project budget.
Project Implementation Review (PIR).	Drafted by the NPC, with the supervision of the LTO and FAO Representation. Approved and submitted to GEF by the FAO-GEF Coordination Unit.	Annual..	FAO staff time financed though GEF agency fees.
			PMU time covered by the project budget.
Co-financing reports.	NPC with input from other co-financiers.	Annual.	PMU time covered by the project budget.
Technical reports.	NPC, FAO (LTO, FAO Representation).	As needed.	
Mid-term workshop.	NPC, FAO country (Support from LTO).	At the end of 21 months from project start	USD 6,000 for mid-term workshop.
Terminal Evaluation (TE).	The BH will be responsible to contact the Regional Evaluation Specialist (RES) within six months prior to the actual	At the end of the Project (to start at least 6 months	USD 50,000 for external consultancy..

	completion date (NTE date). The RES will manage the decentralized independent terminal evaluation of this project under the guidance and support of OED.	before the completion date).	Staff time and travel costs will be financed by GEF agency fees.
Terminal Report.	NPC; FAO (FAO Representation, LTO, FAO PSR Reporting Unit).	Two months prior to the end of the Project	USD 6,550 including USD for meetings
Terminal Workshop.	NPC, FAO country (Support from LTO).	Immediately after the Terminal Evaluation.	USD 5,000 for terminal workshop.
Total M&E budget			**72,550**

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

210. The Project will address urgent issues to support fisheries management through participatory and sustainable management of marine resources in the Gulf of Guacanayabo. At the same time, the Project contributes to the improvement of local economic and social conditions, reducing the pressure on critical fishery resources. Greater food security and generation of employment and income, with a gender perspective, are expected for resource-dependent communities, based on the sustainable management of ecosystems, and the commercialization of biodiversity products.The Project will also improve the provision of other goods and services, which will provide the main economic incentive for these communities, individually and collectively, to conserve biodiversity and optimize ecosystem services.

211. The Project will adopt a comprehensive approach for the conservation of marine biodiversity, recognizing that the food and income needs of the communities that depend on these resources must be balanced with adequate and sustainable conservation measures. The Project will promote territorial economic diversification and expansion through the diversification of fisheries, the introduction of low-impact aquaculture and the commercial use of by-products from the fishing industry, to stimulate value chains integrated with marine resources, benefiting communities whose livelihoods depend on the Gulf. Taken together, this will provide the main economic incentive for these communities, individually and collectively, to conserve biodiversity and ecosystem services.

212. In addressing the barriers described above, the main expected global benefits to be created include:

a) A strengthened strategic and regulatory framework at the local level, based on updated knowledge and the introduction of EAFA practices, which will impact favourably on national policies related to the conservation of marine biodiversityand the sustainable management of fishing resouerces. It will also

lead to institutional strengthening of the bodies responsible for oversight and monitoring.

b) The incorporation of 74,432 hectares of marine habitat under improved fishing practices, including the conservation of relevant biodiversity worldwide. A total of 1,025 tons of currently over-exploited fisheries resources will be moved to sustainable levels, and all of this will directly benefit 43,485 thousand people, 20,125 women and 23,360 men.

c) In this way, global environmental benefits (GEB) for biodiversity will be achieved, but collateral benefits are also expected in adaptation to climate change and the sustainable management of marine-coastal ecosystems. This will result from the synergistic implementation of short-term community-based marine resource management initiatives and the added long-term impacts of new Project-funded initiatives.

d) The creation of at least 50 new jobs, with an estimated increase of 25% in employment ofwomen. It is also estimated that threenew products will improve the value chain of fish production.

e) By creating these global benefits, the Project will contribute to the environmental, social and economic sustainability of fishing and related livelihoods in the areas of intervention. Through participatory approaches, livelihood enhancement and diversification, and gender consideration, benefits will increase in coastal populations - now and in the future.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Section B. Environmental and Social risks from the Project ? ESM Plan

In line with FAO's Environmental and Social Risk Identification - Screening Checklist tool (Annex J), it was considered arisk that one of the interventions is located in the Ensenada de Gua and Cayos de Manzanillo protected area, and categorized as aWildlife Refuge. However, it was evaluated that this category of area, in accordance with national legislation, allows human activities linked to the management of natural resources, provided that certain parameters are taken into account. Further, the implementation of Integrated Offshore Multitrophic Aquaculture in this area will be on a demonstrative scale, in the buffer zone and based on sustainable practices, with a focus on habitat improvement for native species and taking care of the health of these ecosystems, with the aim of contributing to the conservation of coastal marine biodiversity through the sustainable management of fisheries resources. Based on all of the above, the Moderate Risk category is proposed for this Project.

Environmental and Social risks from the Project ? ESM Plan

Risk identified	Risk Classification	Mitigation Action (s)	Indicator / Mean(s) of Verification	Progress on mitigation action

ESS 2: The intervention of the Project in a protected area, which is legally recognized, without the due reconciliation of the administrator of the protected area and its management plan. (Ensenada del Gua and Cayos de Manzanillo protected area, with approved wildlife refuge management category, according to Cuban national legislation).	Moderate	-Guarantee conciliation with the administrator of the protected area for said intervention. -Ensure that the authorities of the protected areas are consulted during all the phases of the Project and criteria are issued during implementation, including the continuous evaluation of the risk that could be caused during the course of the Project and adjust measures if necessary, that guarantee not to affect the habitats or species of the ecosystem. -Ensure the consistency of the activities undertaken with the legal requirements of the areas where they are carried out.	Number of meetingsbetween protagonists of the Project andthe authorities and technicians of the protected area.	Semestral Biannual

ESS 2: Location of demonstration productions in natural habitats: Installation of two integrated multitrophic aquaculture farms, one in the S?balos pool (Cayos de Manzanillo) and another in the inlet of Pasa Sierra (CayosMordazo).	Low	-Establish strict monitoring of species. Native species will be used. -Ensure that the competent authorities of the National System of Protected Areas remain in contactwith the project executor, to guarantee the necessary protection and management measures that guarantee not to affect the habitat or species of the ecosystem.	Number of meetingsbetween protagonists of the Project and the authorities and technicians of the protected area. Species monitoring results.	Biannual

Environmental and social risks are summarized in Annex I1.(Please refer to the uploaded project document under the "Documents" tab)

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Risk Certification Cuba Guacanayabo	**CEO Endorsement ESS**	
ESS Screening Checklist _Cuba Guacanayabo 28 de enero 2021 2	**CEO Endorsement ESS**	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
C 1. Updating the knowledge bases for the management of sustainable fisheries and their key marine habitats, in the Gulf of Guacanayabo						
Outcome 1.1. Improved and updated information on the state of targeted fish species and associated marine-coastal habitats in the Gulf of Guacanayabo						
1.1.1. Technical recommendations to improve the conservation and sustainable use of marine-coastal resources, prepared. 1.1.2. Critical coastal areas for the conservation of marine species of global environmental importance, identified.	1.1.1. Number of technical recommendations to improve the conservation and use of marine-coastal resources, considering the gender perspective presented to government, environmental and fishing stakeholders in the Gulf of Guacanayabo. 1.1.2 Number of critical coastal hectares for targeted fish species under a new protection and sustainable management regime considering the gender perspective.	1.1.1. Zero 1.1.2. Zero ha	1.1.1. At least 5 1.1.2. 30,000 ha	1.1.1. At least 10 1.1.2. 74,432 ha	MINAL and CITMA reports and statistics, annual technical project reports, project evaluations.	The local fishing companies take into account criteria of the environmental and sectoral authorities with incidence in the coastal zone when designing their production plans.
Outcome 1.2. Strengthening the enabling environment for the management of fishing species, with the promotion of an Ecosystem Approach to Fisheries and Aquaculture (EAFA)						

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
1.2.1. Management plans for 6 target fish species in critical marine areas, designed in a participatory manner and with a gender perspective. 1.2.2. Fishing companies (3) apply practices to improve the conservation and sustainable use of fish species in the Gulf of Guacanayabo. 1.2.3. Monitoring, control and surveillance systems for the conservation and sustainable use of fisheries resources, strengthened in a participative manner.	1.2.1. Number of provinces with established management plan for 6 targeted fish species in critical marine areas in the Gulf of Guacanayabo. 1.2.1a. Number of management plans per indicator species. 1.2.1b. Number of management plans that include a Gender Impact Assessment (GIA). 1.2.2. Number of fishing companies that know and apply the EAFA in the Gulf of Guacanayabo. 1.2.2a. Number of companies that increase the number of women and youth in administrative positions and reservations. 1.2.2b. Number of companies that disaggregate trained key actors, by gender and age group. 1.2.3. Provincial monitoring, control and surveillance systems	1.2.1. None 1.2.1a. None 1.2.1b. None 1.2.2. None 1.2.2a. None 1.2.2b. None 1.2.3. None 1.2.3a. Zero	1.2.1. Two 1.2.1a. Two 1.2.1b. Two 1.2.2. Two 1.2.2a. Two 1.2.2b. Three 1.2.3. Two 1.2.3a. 25%	1.2.1. Three (3) 1.2.1a. Six 1.2.1b. Three 1.2.2. Three 1.2.2a. Three 1.2.2b. Three 1.2.3. Three 1.2.3a. 50%	MINAL and CITMA reports and statistics, annual technical project reports, project evaluations.	The local fishing companies take into account criteria of the environmental and sectoral authorities with an incidence in the coastal zone when designing their production plans.

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
C 2. Sustainable livelihoods through fisheries diversification and aquaculture with added value in their products						
Outcome 2.1. Sustainable productive alternatives, have been increased and diversified, including more selective fisheries and low-impact marine aquaculture.						

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
2.1.1. More selective and sustainable fishing alternatives, tested and implemented for traditional species and fisheries. 2.1.2. Marine aquaculture zones established, including Integrated Multitrophic Aquaculture, as an additional pillar to the sustainable management of fisheries resources. 2.1.3. Established mini-industries for aquaculture feed production, using by-products from the local fishing industry and other locally available raw materials. 2.1.4. New products that improve the artisanal fishing value chains (molluscs, crustaceans and fish), with added value and links with the fishing industries, achieved.	2.1.1. Number of fishing companies that implement more selective and sustainable fishing alternatives taking into account the conditions and characteristics differentiated by gender. 2.1.2. Number of AMTI and monospecific aquaculture zones implemented in the Gulf of Guacanayabo. 2.1.2a. Number of new jobs generated by aquaculture, disaggregated by gender and age group. 2.1.2b. Percentage of women participating in decision-making processes for establishing aquaculture zones. 2.1.3. Number of mini-industries for aquaculture feed production, using by-products from the fishing industry. 2.1.3a. Percent increase in jobs in the mini-	2.1.1. None 2.1.2. None IMTA and none monospecific 2.1.2a. None 2.1.2b. Zero 2.1.3. None 2.1.3a. Zero % 2.1.4. None 2.1.4a.Zero 2.1.4b.Zero	2.1.1. Two 2.1.2. One IMTA, one monospecific 2.1.2a. At least 25 2.1.2b. At least 20 2.1.3. One 2.1.3a. At least 15% 2.1.4. At least one 2.1.4a.At least 15 2.1.4b.At least one	2.1.1. Three 2.1.2. Two IMTA, one monospecific 2.1.2a. At least 50 2.1.2b. At least 30 2.1.3. Two 2.1.3a. At least 25% 2.1.4. At least three 2.1.4a.At least 25 2.1.4b.At least three	MINAL and CITMA reports and statistics, annual technical project reports, project evaluations.	Local governments promote diversification of climate-resilient livelihoods that preserve marine-coastal ecosystems.

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
C 3. Knowledge management and dissemination of results for replication and national scaling						
Outcome 3.1. Strengthened Fisheries management with an EAFA approach.						

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
3.1.1. Fisheries management system applying EAFA, agreed with national and local stakeholders. 3.1.2. EAFA practices incorporated into national fisheries and aquaculture management policies and systems. 3.1.3. Proposal of protocols for replication and national scaling, of alternative productive practices and of the participatory governance system implemented in the Gulf of Guacanayabo. 3.1.4. Project communication strategy, with a gender perspective.	3.1.1. Number of national and local stakeholders that agree upon the EAFA oriented fisheries management system. 3.1.1a. Percentage of women and youth participating in the EAFA oriented fisheries management system consultations. 3.1.2. Number of EAFA practices incorporated into official fisheries and aquaculture resource management systems and the sector's policy and legal framework, with gender perspective. 3.1.3. Number of protocol proposals for the replication of the interventions and for their insertion in sectorial and territorial policies and plans, with a gender and GAP vision. 3.1.4. Number of municipalities	3.1.1. No national or local stakeholder 3.1.1a. Zero 3.1.2. None 3.1.3. None 3.1.4. None 3.1.4a. Zero %	3.1.1. Two national, 2 locals 3.1.1a. At least 20 3.1.2. Three 3.1.3. At least one 3.1.4. Three 3.1.4a. 40%	3.1.1. Four national, 3 locals 3.1.1a. At least 30 3.1.2. Six 3.1.3. At least three 3.1.4. Three 3.1.4a. 100%	MINAL and CITMA reports and statistics, annual technical project reports, project evaluations.	Local governments promote the creation of spaces for systematic dialogue between key stakeholders concerning EAFA. The national authorities of CITMA and MINAL promote the updating of the legal and regulatory base on the conservation and sustainable management of coastal ecosystems.

Results chain	Indicators	Baseline (Year 1)	Targets		Sources and means of verification	Assumptions
			Mid-Term	End of the Project		
C 4. Project Management						
Outcome 4.1. Monitoring and Evaluation System implemented						
4.1.1.Project M&E system, with gender-sensitive indicators established.	4.1.1. Application of monitoring results in project planning and management and in reducing gender gaps within the fisheries sector. 4.1.1a. Existing municipal Gender Focal Points responsible for collecting data for the GAP's quarterly monitoring reports. 4.1.1b. Percentage of women in the participatory monitoring system to validate the results and measure the socialimpact of the interventions.	4.1.1. Non applicable 4.1.1a. None 4.1.1b. Zero	4.1.1. Application in years 1 and 2 4.1.1a. Three 4.1.1b. Thirty	4.1.1. Application in years 3 and 4 4.1.1a. Three 4.1.1b. Sixty	Project technical reports, evaluation reports.	There is stability in the Project team composition. Project team members are trained to perform various functions.
4.1.2. Terminal evaluation	4.1.3. Percentage of key national and territorial stakeholders receiving the results of the terminal evaluation, including those related to the implementation of the GAP.	4.1.3. Zero	4.1.3. Zero	4.1.3. One hundred	Project closure report. Communication and dissemination materials in different media.	Adequate support from national and territorial stakeholders is achieved during the terminal evaluation.

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

N/A

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

	GETF/LDCF/SCCF Amount ($): 50,000[VGR1]		
Project Preparation Activities Implemented	*Budgeted Amount*	*Amount Spent To date*	*Amount Committed*
Inception Workshop	5,050.00	4,336.69	0.00
Confirmation Workshop	6,069.00	0.00	0.00
Local consultations	7,000.00	6,185.88	0.00
National Consultant/Project Designer	11,000.00	10,889.77	110.00
National Consultant /Marine Biodiversity	6,750.00	5,999.93	0.00
National Consultant/ Environmental and Social Safeguards	6,750.00	5,999.93	0.00
IT / Seguridad de todos los consultores	0.00	869.82	0.00
Professional salaries	2,381.00	0.00	0.00
Translation	5,000.00	4,070.00	0.00
Total	**50,000.00**	**38,352.00**	**110.00**

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

Project intervention areas and the types of interventions to be carried out, as part of component 2, are shown in Fig. 1.

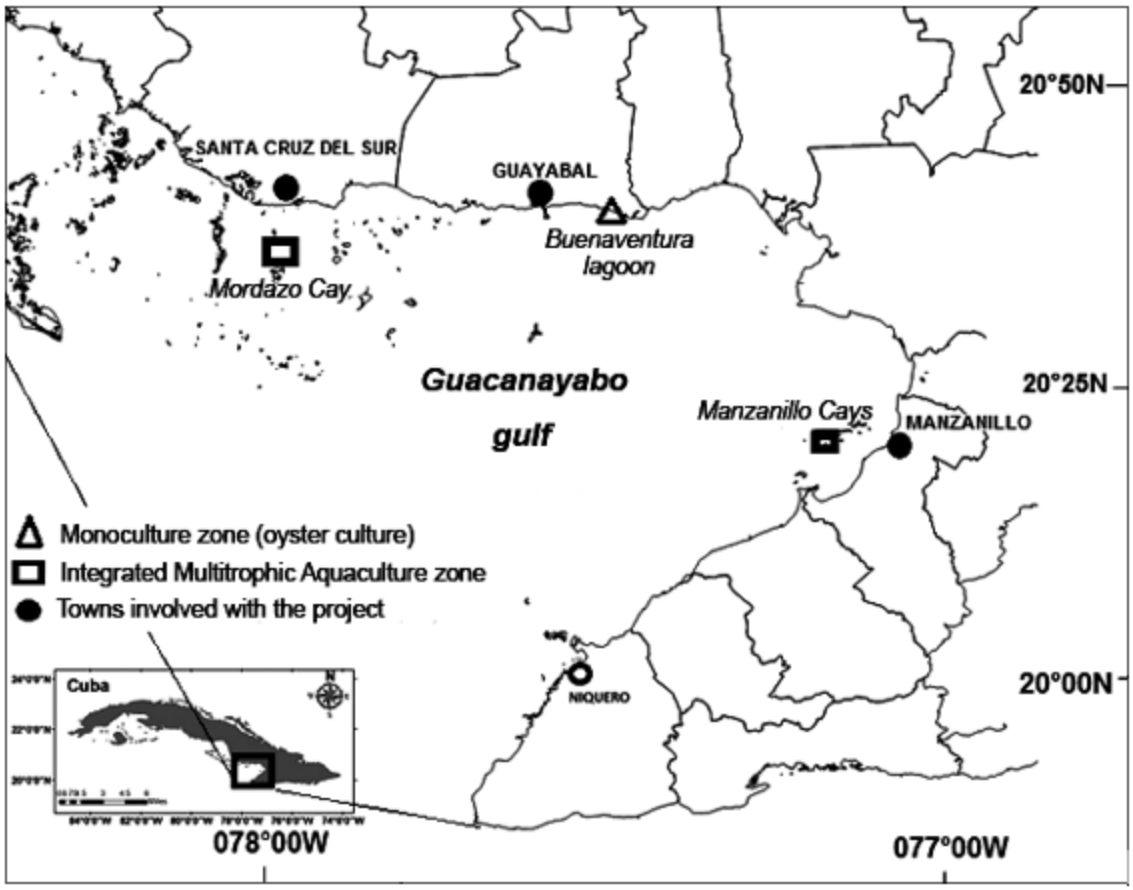

Fig. 1. Project intervention areas

The priority ecosystems of the Gulf of Guacanayabo are of relevance for the breeding and development of species of global environmental importance. The Project will promote these before the environmental authorities for their special protection, are shown in Fig. 2.

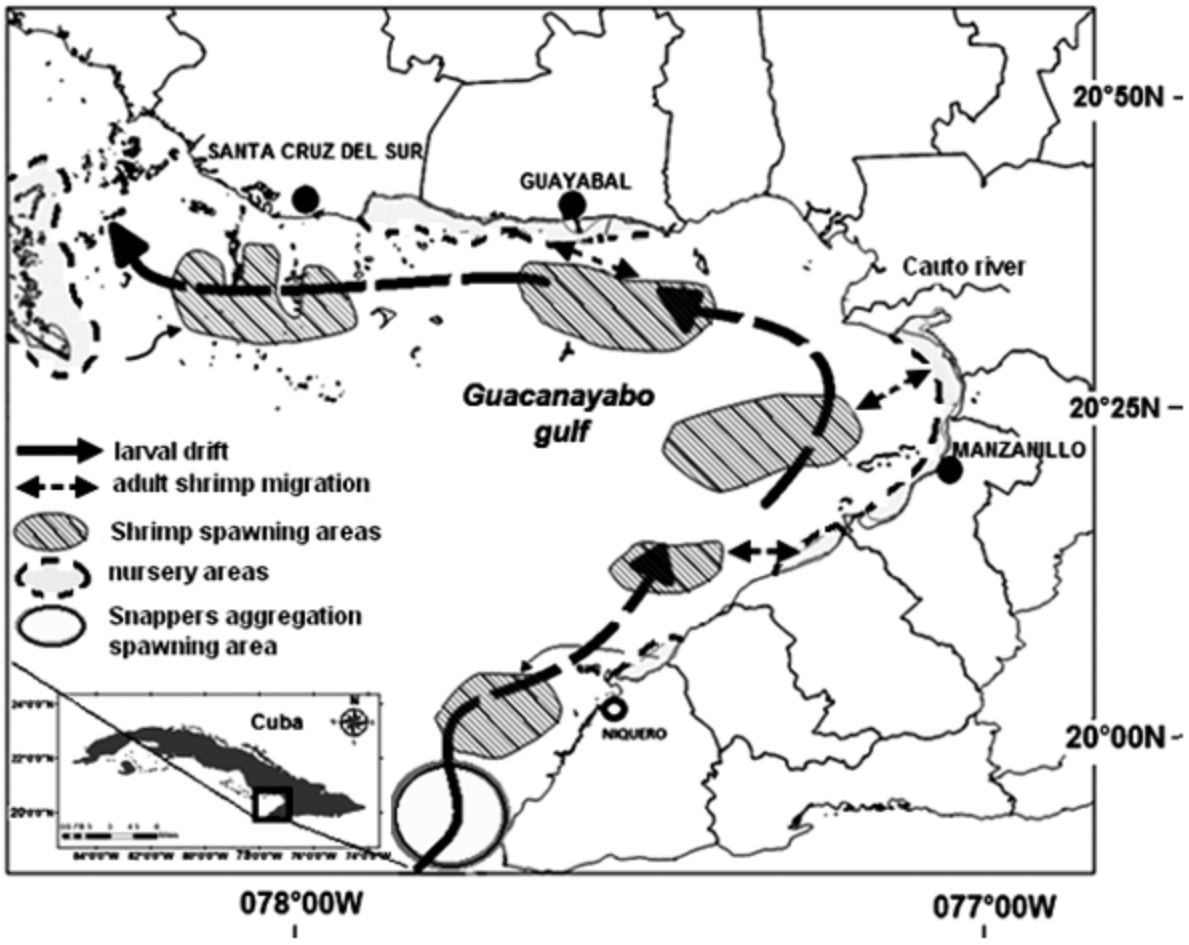

Fig. 2. Coastal-marine ecosystems prioritized in relation to the main shrimp spawning areas, breeding areas for marine species and larval drift in the Gulf of Guacanayabo.

ANNEX E: Project Budget Table

Please attach a project budget table.

Oracle code and description	Component 1	Componen t 2	Component 3	Component 4	M&E	PMC	Total GEF
5570 Consultants							
International consultant on Aquaculture	0	20,850	0	0		0	20,850
International consultant on Ecosystem Approach to Fisheries	0	20,850	0	0		0	20,850
Sub-total international Consultants	0	41,700	0	0		0	41,700

Project National Coordinator	0	0	0	0		33,600	33,600
Procurement specialist	0	0	0	0		21,000	21,000
Adminsitrative Assitant	0	0	0	0		25,200	25,200
Sub-total national Consultants	0	0	0	0		79,800	79,800
5570 Sub-total consultants	**0**	**41,700**	**0**	**0**	**0**	**79,800**	**121,500**
5650 Contracts							
Terminal evaluation	0	0	0	0	50,000	0	50,000
Terminal Report					6,550		6,550
Laboratory Analysis	3,000	4,000	0	0		0	7,000
Edition, printing and traduction process	0	0	7,000	0		0	7,000
Publicity (diffusion tools)	0	0	5,000	0		0	5,000
5650 Sub-total Contracts	**3,000**	**4,000**	**12,000**	**0**	**56,550**	**0**	**75,550**
5900 Travel							
International Training and Mission for technological transfer and International Congress	5,000	15,000	0	0		0	20,000
Prospecting travel inside the project intervention area	15,000	5,000	0	0		0	20,000
Travels from project zones toward Havana (two per year)	0	0	0	16,000		0	16,000
Visit of International consultant on Aquaculture (per day and ticket)	0	12,000	0	0		0	12,000
Visit of International consultant on Ecosystem Approach to Fisheries (per day and ticket)	12,000	0	0	0		0	12,000

Local meetings, workshops or scientific events	6,000	2,000	2,000	0		0	10,000
5900 Sub-total travel	**38,000**	**34,000**	**2,000**	**16,000**	**0**	**0**	**90,000**
5023 Training							
Inception Workshop	0	0	0	0	5,000	0	5,000
Midterm Progress Workshop	0	0	0	0	6,000	0	6,000
Final Workshop	0	0	0	0	5,000	0	5,000
Gender equality workshop	0	10,000	9,500	0		0	19,500
Training in legal procedures and fisheries regulations	6,500	0	6,500	0		0	13,000
Workshop of new products from aquaculture and industrial proccess. Commercialization	0	7,000	6,500	0		0	13,500
Workshops about EAFA on fisheries and aquaculture	6,500	0	6,500	0		0	13,000
IMTA Workshop and training with EAFA	0	16,000	8,500	0		0	24,500
Events for children in the community about biodiversity preservation	2,000	0	2,500	0		0	4,500
Training and socialization activities at local level with gender focus	0	6,950	6,000	0		0	12,950
Workshop for Evaluating the training impact in fisheries management and aquaculture by enterprises, fishermens and local communities	0	0	15,000	0		0	15,000
Meetings	5,400	2,500	2,600	3,000		0	13,500

5023 Sub-total training	**20,400**	**42,450**	**63,600**	**3,000**	**16,000**	**0**	**145,450**
6000 Expendable procurement							
Fishing gears	8,400	8,600	0	0		0	17,000
Fuel	10,000	10,000	5,000	5,000		0	30,000
Gasoline	3,000	3,000	0	0		0	6,000
Replace pieces Set (for SUV 4x4, Micro-Bus, motorcicles and electrical scooters)	21,500	0	0	0		0	21,500
Office supplies	3,000	2,000	4,000	0		0	9,000
Transport cost (Maintenance and insurance of SUV 4x4, Micro-Bus and motorcicles)	30,200	0	0	0		0	30,200
Protection means	3,000	1,000	0	0		0	4,000
Clothes for promotion (Logo)	0	0	3,000	0		0	3,000
Material for workshops and children activities	750	750	750	0		0	2,250
Bulletins and manuals (hard copies)	3,000	3,000	3,000	0		0	9,000
Laboratory reactive and supplies	2,300	4,060	0	0		0	6,360
Supplies for minindustries	0	17,000	0	0		0	17,000
6000 Sub-total expendable procurement	**85,150**	**49,410**	**15,750**	**5,000**	**0**	**0**	**155,310**
6100 Non-expendable procurement							
Transport	75,100	2,600	3,900	0		0	81,600
Vehicle SUV 4x4	30,000	0	0	0		0	30,000
Micro-Bus 16 or 24 places	35,000	0	0	0		0	35,000
Electrical Scooter	2,600	2,600	3,900	0		0	9,100
Motorcycle	7,500	0	0	0		0	7,500
ICT Equipment	11,712	8,000	17,600	0		0	37,312
Laptop	2,100	2,800	0	0		0	4,900
Desktop Computer	1,600	3,200	2,400	0		0	7,200
UPS	300	600	450	0		0	1,350

Printer MFP (Multifunction: printer, scanner, photocopier), LASER monochromatic (white and black) at least 18 ppm, USB connection	700	1,400	1,050	0		0	3,150
Laser Printer Color	320	0	0	0		0	320
Plotter	0	0	2,300	0		0	2,300
Desktop Thin Client + 5 Monitors for virtual classroom	0	0	6,500	0		0	6,500
Projector	200	0	400	0		0	600
Digital Camera GoPro	500	0	500	0		0	1,000
External Hard Disk	480	0	0	0		0	480
WiFi Conexi?n Equipments	2,510	0	0	0		0	2,510
Portatil GPS	1,200	0	0	0		0	1,200
Walky Tollky	1,112	0	0	0		0	1,112
UHF radio	690	0	0	0		0	690
TV 54" for virtual classroom	0	0	4,000	0		0	4,000
Oceanographic and monitoring equipments	30,170	20,550	5,000	0		0	55,720
Mini station KESTLER	1,500	0	0	0		0	1,500
Turbidimeter HANNA	1,000	0	0	0		0	1,000
Redox, pH and temp analizator PCE-228R	670	0	0	0		0	670
Draga Ekman o Van Veen	1,000	0	0	0		0	1,000
Van Dorn Bottle (2 L)	3,000	0	0	0		0	3,000
Ictiometer Krauss - Henque	150	0	0	0		0	150
Multiparameter water equipment YSI or HANNA	10,600	15,900	0	0		0	26,500
YSI Oximeter	2,250	2,250	2,250	0		0	6,750
Refractometer	1,250	750	1,250	0		0	3,250
pH meter	1,500	0	1,500	0		0	3,000
Digital Caliper	500	300	0	0		0	800

Compressor diving	4,500	0	0	0		0	4,500
Digital balance 1-100g	2,250	1,350	0	0		0	3,600
Laboratory Equipments	4,140	10,520	0	0		0	14,660
Biological Microscope	2,400	4,800	0	0		0	7,200
Stereo Microscope	1,740	3,480	0	0		0	5,220
SARTORIUS Analytics Balance	0	2,240	0	0		0	2,240
Aquaculture module (cages-nets-support system)	0	80,000	0	0		0	80,000
Technological Equipment for indutries	0	278,616	0	0		0	278,616
Hammermill for limestone	0	11,000	0	0		0	11,000
KARCHER Hidrowhasher	0	4,280	0	0		0	4,280
Steam Kettle with electrical mixer	0	1,706	0	0		0	1,706
SARTORIUS Industrial balance 16 kg	0	830	0	0		0	830
Platform balance 100 kg with DEL Screen	0	4,500	0	0		0	4,500
Spine and skin separating machine POSS	0	60,000	0	0		0	60,000
Industrial vacuum packing machine	0	21,000	0	0		0	21,000
Shrimp peeling machine	0	12,000	0	0		0	12,000
Ice Plant	0	47,000	0	0		0	47,000
Freezing tunnel	0	65,000	0	0		0	65,000
Hamburger forming machine	0	51,300	0	0		0	51,300
Miniindustries Equipments	0	45,720	0	0		0	45,720
Food extruder machine	0	16,060	0	0		0	16,060
Technique balance (400g)	0	1,500	0	0		0	1,500
Pelletizer (100-120 kg/h)	0	7,160	0	0		0	7,160
Electric drying oven	0	11,000	0	0		0	11,000

Windmill	0	3,000	0	0		0	3,000
Mixer machine	0	7,000	0	0		0	7,000
Other Equipment	12,625	68,400	0	0		0	81,025
DIESEL Marine motor 13 HP	6,000	6,000	0	0		0	12,000
DIESEL Marine motor 30 HP	0	24,000	0	0		0	24,000
DIESEL Generator Set	0	21,000	0	0		0	21,000
Freezer	0	3,600	0	0		0	3,600
Doble temperature fridge	0	4,200	0	0		0	4,200
Diving equipments	5,000	5,000	0	0		0	10,000
Memory stick 16 GB	600	0	0	0		0	600
Memory stick 32 GB	800	0	0	0		0	800
Refrigerated container for expeditions	225	225	0	0		0	450
Split 1,5 ton	0	4,375	0	0		0	4,375
Desing and enableling of miniindustries and virtual classroom	0	3,000	6,900	0		0	9,900
6100 Sub-total non-expendable procurement	**133,747**	**517,406**	**33,400**	**0**	**0**	**0**	**684,553**
6300 GOE budget							
Miscelaneous, incluiding contingencies	2,000	2,820	1,500	1,000		40,180	47,500
6300 Sub-total GOE budget	**2,000**	**2,820**	**1,500**	**1,000**	**0**	**40,180**	**47,500**
TOTAL	**282,297**	**691,786**	**128,250**	**25,000**	**72,550**	**119,980**	**1,319,863**

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is

required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).