GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title	
Strengthening management to combat threats from Aquatic Invasive Alien Species in Venezuela	
Region	GEF Project ID
Venezuela	11115
Country(ies)	Type of Project
Venezuela	FSP
GEF Agency(ies):	GEF Agency ID
FAO	744373
Executing Partner	Executing Partner Type
Ministry of People's Power for Eco-socialism (MINEC)	Government
GEF Focal Area (s)	Submission Date
Biodiversity	4/11/2023
Project Sector (CCM Only)	
Taxonomy	
Focal Areas, Species, Biodiversity, Invasive Alien Species, Protected Areas and Landscapes, Community Based Natural Resource Mngt, Productive Landscapes, Coastal and Marine Protected Areas, Biomes, Coral Reefs, Sea Grasses, Mainstreaming, Tourism, Fisheries, Climate Change Adaptation, Climate Change, Livelihoods, Influencing models, Demonstrate innovative approache, Stakeholders, Type of Engagement, Information Dissemination, Consultation, Participation, Local Communities, Communications, Behavior change, Public Campaigns, Education, Awareness Raising, Civil Society, Academia, Non-Governmental Organization, Community Based Organization, Private Sector, Large corporations, Individuals/Entrepreneurs, Beneficiaries, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Women groups, Gender results areas, Knowledge Generation and Exchange, Capacity Development, Access to benefits and services, Participation and leadership, Capacity, Knowledge and Research, Learning, Theory of change, Innovation, Knowledge Generation, Training, Knowledge Exchange, Peer-to-Peer, Targeted Research	
Type of Trust Fund	Project Duration (Months)
GET	60
GEF Project Grant: (a)	GEF Project Non-Grant: (b)
6,000,000.00	0.00
Agency Fee(s) Grant: (c)	Agency Fee(s) Non-Grant (d)
570,000.00	0.00
Total GEF Financing: (a+b+c+d)	Total Co-financing
6,570,000.00	35,940,000.00
PPG Amount: (e)	PPG Agency Fee(s): (f)

150,000.00	14,250.00
PPG total amount: (e+f) 164,250.00	Total GEF Resources: (a+b+c+d+e+f) 6,734,250.00
Project Tags CBIT: No NGI: No SGP: No Innovation: No	

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B “project description”.(max. 250 words, approximately 1/2 page)

Venezuela is located at the intersection of the Amazon, Caribbean and Guyana biogeographic regions and is considered one of the ten most biologically diverse countries on the planet, with outstanding marine-coastal biodiversity. One of the main threats to biodiversity is the introduction of invasive alien species (IAS)[1][1], for this reason, the National Action Plan of the National Strategy for the Conservation of Biological Diversity 2010-2020 of Venezuela (PAN-ENCDB), in its Strategic Line 5, establishes actions for the identification, prevention and control of IAS or potentially invasive species. However, its implementation has been conditioned by insufficient human, regulatory, information and financial resources, with limited coordination between institutions, authorities and local communities. Furthermore, it is facing the invasion of new invasive species that require protocols and control actions that have not yet been established, especially in the case of aquatic IAS, which present additional challenges in terms of controlling the pathways of introduction and dispersal.

Such is the case of the recent presence of the IAS *Unomia stolonifera*, an Indo-Pacific octocoral, has been reported in Marine and Coastal Protected Areas (MCPAs): Mochima, Morrocoy, San Esteban and Henri Pittier National Parks[2][2]. This IAS generates alterations in the reef ecosystem, with potential consequences in the "biodiversity hotspot of the Caribbean Antilles or islands", in the ecosystem services provided by the reefs and benthic communities, and in the economic, tourism and fishing activities, which are the main livelihoods of the most vulnerable populations present in these MCPAs. A prompt and coordinated action is required to identify invasion pathways and control its expansion, and in this context a pilot with participation of communities will be implemented on this IAS, and its results will in turn contribute with information and lessons to strengthen the management of aquatic invasive alien species at the national level.

The project aims to protect globally important biodiversity and associated ecosystem services by strengthening political, legal, institutional and financial frameworks; information, surveillance and control systems for aquatic IAS; and to improve and innovate the control of this IAS from a community perspective, considering gender equity and implementing a results based and knowledge management approach. The main expected impacts are to improve management to combat IAS threats in the country's MCPAs, through the development of a National System for detection, monitoring and control of aquatic IAS that is financially sustainable and with involvement of local communities. The project will pilot a comprehensive approach for the control of *U. stolonifera* in four National Parks that have been invaded by the coral and whose coastal

area covers 119,576 ha. These results will be incorporated into the guiding instruments of all the national MCPAs, scaling up to the 6,847,720.43[3][3] ha that make up Venezuela's MCPAs. The recovery of the reef ecosystems will benefit the population surrounding the MCPAs, estimating the active participation of close to 19,000 people in the control and surveillance of this IAS and the natural environment; they will also receive training in sustainable production alternatives, thereby increasing the economic resilience of the communities and reducing the negative impacts on their livelihoods. Consequently, it will help mitigate the effects of climate change by contributing to improve the health and integrity of reef systems.

[1] International Union for Conservation of Nature, IUCN. https://www.iucn.org/our-work/topic/invasive-alien-species

[2] [2]MINEC (2021). Database of Areas Under Special Administration Regime (ABRAE). Series: Ordenación y Gestión Territorial del Ambiente - Documentos Nacionales. Office of the Vice-Minister of Environmental Management. General Directorate of Ecosystem Management and Conservation Policies.

[3] Marine and coastal protected areas within Areas under Special Administration Regime (ABRAE).

Indicative Project Overview

Project Objective

Reduce the loss of globally important biodiversity and ecosystem services by strengthening the prevention, timely detection and control of invasive alien aquatic species in Venezuela's Marine-Coastal Protected Areas.

Project Components

1. Institutional strengthening for the management of IAS

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
855,749.00	5,095,799.00

Outcome:

1.1 Institutions strengthen their legal framework and inter-sectoral coordination to reduce threats from aquatic IAS.

Indicators:

** Creation of the Inter-sectoral Coordination Group, led by MINEC, which links other public and private entities for the management of IAS.*

** Number of regulations related to the management of IAS that are updated, harmonized and submitted to the executive body responsible for environmental matters.*

** Management, Regulation and Use Plans (PORU) of the four (04) key APMCs updated to incorporate aquatic IAS management.*

** Area of marine protected areas under improved management (GEF Core Indicator 2.2): 119,576 direct ha.*

** Updated Master Plan of the APMC System to incorporate aquatic IAS management in APMCs throughout the country, covering an area of 6,847,720.43 ha.*

1.2 Public and private entities informed about the costs of aquatic IAS contribute to increase financial resources for their management.

Indicator:
** Cost-Benefit Analysis prepared for the four (04) key CCAs*
** Number of aquatic IAS management and control tools with funding (public or private) for their implementation.*

Output:

.1.1 Inter-sectoral Coordination Group on IAS (GCIEEI), created and operational.

.1.2 Regulations for the prevention and control of aquatic IAS, updated and harmonized with other relevant sectoral regulations of national scope, submitted for pproval to the executive body responsible for environmental matters (Strategic Line 5 of the NAP-CBDN).

1.1.3 Master Plan of the Coastal Marine Protected Areas System articulated with the management of aquatic IAS and updating of the PORUs of the four (04) key APMCs.

.2.1 Analysis of the economic costs (cost-benefit/cost-effectiveness) that impact the four (04) key APMCs due to the introduction of aquatic IAS (damage to the cosystem and economic consequences due to loss of productivity, sources of tourism and others).

.2.2 Financial viability program for the management of aquatic IAS and for the permanent monitoring and control of traffic of aquatic exotic species, developed and ubmitted to the competent authorities for approval.

2. Aquatic IAS monitoring and control systems developed with community participation.

Component Type	Trust Fund
Technical Assistance	GET

GEF Project Financing ($)	Co-financing ($)
1,400,999.00	8,342,644.00

Outcome:

2.1 Strategies for prevention, early detection, surveillance and control of the dispersal of aquatic IAS or potential invaders, developed and implemented in the different pathways of introduction (Strategic Line 5 of the NAP-CBDN).
Indicators:
** SINVCEEIa, formed to reinforce restrictions on the introduction of IAS.*
** Improved Biodiversity Information System linked to prevention, control, monitoring and effective management of aquatic IAS.*
** Publication of the Official List of Invasive Alien Species, with special emphasis on those of aquatic origin.*

2.2 Strengthened community capacities for the prevention and control of risks associated with IAS, contributing to biodiversity conservation.

Indicators:
** 19,000 inhabitants (5% of the local population of the four (04) key APMCs) participate in the early warning plans.*
** % of women participating in brigades and training program.*
** Increased public understanding of IAS and their impacts.*

Output:

.1.1 National Aquatic IAS Monitoring and Control System (SINVCEEIa), designed and operational.
.1.2 Venezuela's Biodiversity Information System (SIDBVEN), with an updated and reactivated aquatic IAS module.
.1.3 Official list of IAS, with special emphasis on aquatic exotics, including a synthesis of their biological and ecological characteristics, updated and published.

.2.1 Network of environmental brigades and organized communities, formed and operational to support the early warning plans formulated by SINVCEEIa, which ontribute to the prevention and control of the introduction of aquatic IAS, considering a gender equity approach.
.2.2 Training, communication and awareness-raising program aimed at generators, managers and disseminators, massively disseminating information on the impacts f aquatic IAS and prevention and control mechanisms (design of a PPP on IAS), with a gender equity approach, designed and implemented.

3. Pilot experience of participatory community control of aquatic IAS, with sustainable socio-productive alternatives to contribute to habitat restoration in the four (04) key APMCs.

Component Type	Trust Fund
Investment	GET
GEF Project Financing ($)	Co-financing ($)
3,237,432.00	19,278,204.00

Outcome:

3.1 Control of the IAS *U. stolonifera*, validating and implementing its protocol for the containment of this species in the four (04) key APMCs.

Indicators
** Management protocol developed and scientifically validated.*
** Experimental management protocol in multi-stakeholder implementation.*
** Number of people involved in removal and control activities, disaggregated by gender*

3.2 Recovery of ecosystems degraded by the IAS *U. stolonifera* in the four (04) key APMCs.
Indicators:
** 86,515.55 ha of marine-coastal protected areas (aquatic zone of the MCPAs) recovered and rehabilitated, of the 6,847,720.43 ha of which the four (04) key CMPAs are part.*
** Active Native Reef Restoration Program incorporated in the Master Plan of the Coastal Marine Protected Areas System and in the PORUs of the four (04) key APMCs.*
** N° of people participating in ecosystem restoration activities, disaggregated by gender (GEF Core indicator 11)*

3.3 Local communities implement socio-productive alternatives as livelihoods to mitigate the impact of IAS and enhance habitat restoration.
Indicators:
** Socio-productive alternatives identified in each CMPA, consistent with the Master Management Plan of these areas, for the conservation of their biodiversity.*
** Number of people adopting new sustainable economic activities, disaggregated by gender*
(GEF Core Indicator 11)
** The APMC Master Management Plan is updated and incorporates sustainable production practices for the conservation and restoration of vulnerable ecosystems.*

Output:

.1.1 Quantitative baseline survey of IAS colonization in the reef system of the four (04) key APMCs.
.1.2 Removal protocols for mechanical and biological control of the IAS U. stolonifera, developed, scientifically validated and implemented.
.1.3 Descriptive protocol for the control of the species *U. stolonifera*, developed with the MINEC for consideration as a national standard
.1.4 Training program to enable local community members to participate in *U. stolonifera* removal and control activities, based on scientifically validated xperimental management methods, designed and implemented.

.2.1 Active Native Reef Restoration Program designed and implemented.
.2.2 Training program for local community members to participate in reef ecosystem recovery activities, designed and implemented.

.3.1 Training program designed and implemented for local communities in sustainable productive practices, incorporating a gender equity approach
.3.2 Master Management Plan for the APMCs updated to incorporate sustainable production practices

4. Design of Monitoring, Evaluation, Information Dissemination and Project Learning Systems.

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
109,420.00	651,575.00

Outcome:

4.2 Strategic alliance between the public sector, private sector and communities to improve the understanding and importance of research, knowledge and dissemination of IAS biology and ecology to protect biodiversity, ecosystems, economy and livelihoods.

Output:

·.2.1 Venezuelan Network of Researchers to promote knowledge of IAS, which generates information on the research priorities needed to avoid threats to national cosystems (Strategic Line 5 of the NAP_ENCDB), designed and implemented.
·.2.2 Manual of Good Practices to prevent the spread of potential or present aquatic IAS in Venezuela, with a description of their biological and ecological haracteristics and control mechanisms, prepared and published.
·.2.3 Dissemination of lessons learned in relation to community and participatory action and best practices undertaken, published and incorporated into SINVCEEIa.

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
146,400.00	871,778.00

Outcome:

4.1 Project implementation based on adaptive results management approaches aimed at ensuring its sustainability.

Output:

·.1.1 Project monitoring and evaluation system developed to provide systematized information on progress towards project outcomes and outputs.
·.1.2 Mid-term review and final evaluation of project implementation carried out and sustainability strategy adjusted to recommendations

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
1. Institutional strengthening for the management of IAS	855,749.00	5,095,799.00
2. Aquatic IAS monitoring and control systems developed with community participation.	1,400,999.00	8,342,644.00
3. Pilot experience of participatory community control of aquatic IAS, with sustainable socio-productive alternatives to contribute to habitat restoration in the four (04) key APMCs.	3,237,432.00	19,278,204.00
4. Design of Monitoring, Evaluation, Information Dissemination and Project Learning Systems.	109,420.00	651,575.00

M&E	146,400.00	871,778.00
Subtotal	**5,750,000.00**	**34,240,000.00**
Project Management Cost	250,000.00	1,700,000.00
Total Project Cost ($)	**6,000,000.00**	**35,940,000.00**

Please provide justification

PROJECT OUTLINE

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

The Venezuelan geographic space has a land area of 916,445 Km2 and more than 500,000 Km2 of aquatic extension, including the Territorial Sea, the Contiguous Zone and the projection of the Exclusive Economic Zone.[1][4] The country's projected population is 33,360,238 inhabitants, mainly urban (88.88%) and mostly concentrated in the central-northern region of the country[2][5]. The Nation is sustained by an economy based primarily on the extraction and refining of oil and other minerals, as well as multiple agricultural and industrial activities, including fishing and aquaculture, fertilizer production, cement, electrical and electronic industries, processed foods, beverages, manufacturing, construction, transportation, as well as forestry products, which are developing in transition to a post-oil economy[3][6]. Its location gives the country a wide diversity of ecosystems throughout 27 climatic zones, and 72.05% of the country's surface is under the figure of Areas under Special Administration Regime (ABRAE)[4][7], for a total of 408 officially decreed areas, subdivided into three categories: I) Areas for strictly protection, education, research and recreation purposes (27,593,609.24 ha); II) Areas for protective purposes through regulated uses (29,795,175.40 ha); and III) Areas for production and geostrategic purposes (40,660,401.13 ha)[5][8]. There are 99 Marine and Coastal Protected Areas (MCPAs), covering 6,847,720.43 hectares. The total coverage of the marine area is divided into 13 ecoregions, with highly diverse and productive ecosystems such as mangrove forests, coral reefs, phanerogam meadows, sandy beaches, rocky platforms and estuarine ecosystems, which place Venezuela among the top 10 countries with the greatest marine biodiversity in the world. This entire coastal marine area is the main tourist and recreational attraction of the country, which also serves as a support for a whole national, regional and local economic system of sustainable use of other resources, such as hydro-biological resources[6][9], The population settled in this area represents 18% of the national level (4,222,831 inhabitants)[7][10]. However, the MCPAs face a worrisome situation because significant drivers of threats to the environment have been reported, due to anthropogenic activities related to tourism, overexploitation of marine resources, physical alteration and eventual impacts of the oil industry, which have caused damage to some natural environments, contamination, depletion of certain resources and the introduction of invasive alien species.

According to the 2001 "Report on the current situation of exotic species in Venezuela", within the framework of the provisions of the Convention on Biological Diversity (CBD), measures were

proposed to avoid the negative effects of invasive species on the country's biological diversity[8][11]. This document highlights that the vast majority of activities related to the management of IAS in Venezuela have been aimed at preventing the entry of IAS linked to human health and productive agricultural, livestock and forestry sectors, while introductions through other sources of entry harmful to biodiversity, particularly those of aquatic origin, such as the aquarium trade, aquaculture or ballast water, have received very little attention.

The first National Strategy for the Conservation of Biological Diversity (ENCDB) included this issue as part of national public policy and in compliance with the country's international commitments. More recently, the Government of the Bolivarian Republic of Venezuela (GRBV) established a National Action Plan for the implementation of the ENCDB 2010-2020, that includes "Strategic Line 5, which establishes measures for the prevention, control and eradication of exotic species" in general. Later on, in order to advance in the fulfillment of the ENCDB, the ministerial entity was reorganized, now called the Ministry of People's Power for Eco-socialism (MINEC), within which the General Directorate of Biological Diversity and the Directorate for the Prevention of Threats to Biological Diversity were created[9][12] to carry out the monitoring and supervision, both at species and ecosystem level, of any activity that may have adverse impacts on biological diversity throughout the national territory, in addition to being in charge of the regulation and authorization processes for the introduction and control of exotic species, complying with the contents of the National Action Plan of the ENCDB 2010-2020 and in coordination with other units attached to MINEC and relevant institutions.

These actions are supported by a compendium of regulations, including the Organic Law for Land Management (1983), Organic Environmental Law (2006), Environmental Criminal Law (2012), Biodiversity Management Law (2008), Wildlife Protection Law (1970), Regulations of the Wildlife Protection Law (1999), Rules for the Implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (2016), and the instrument "Rules for the introduction and propagation of exotic species of wild and aquatic flora and fauna" (1992). On the other hand, there is the Comprehensive Agricultural Health Law (2008) executed through the National Institute of Comprehensive Agricultural Health (INSAI), attached to the Ministry of People's Power for Productive Agriculture and Lands (MPPAPT); INSAI is responsible for the surveillance, prevention, control and eradication of diseases and pests that affect integral agricultural health, as well as for the epidemiological, phytosanitary and zoosanitary surveillance of the import, export and movement of animals, plants, products and by-products of both origins. Ministry of People's Power of Fisheries and Aquaculture (MINPESCA), through the Fisheries and Aquaculture Law (2014), regulates the issuance of permits for the import and export of fresh, live, frozen and processed hydro-biological resources in any of their presentations and regulates the activities related to live specimens of ichthyoid-fauna with ornamental value and species for aquaculture production purposes. The Ministry of Transportation, through the National Institute of Aquatic Spaces (INEA), is responsible for enforcing compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), the International Convention for the Control and Management of Ballast Water and Sediments Generated by Ships (BWM/CONF/36), for treatment of ballast water and biofouling. All these institutions must comply with the national public policy contained in the Law of the Plan of the Homeland 2019-2025, in the Historic Objective V "Preserve Life on the Planet", as one of its Strategic Objectives.

Additionally, the national government assigns them annually through the "Budget Law for the Fiscal Year" ordinary funds for the execution of activities related to their competencies: programs, projects, actions and various activities. On the other hand, there are national funds, as in the case of the Organic Law of Science, Technology and Innovation (LOCTI) and its Regulations, managed by the National Fund for Science, Technology and Innovation (FONACIT) with the purpose of financing productive, educational, dissemination, research and technological innovation projects, to strengthen the scientific, technological and industrial apparatus of the country; their contributions come from private or public entities, domiciled or not in the country, which carry out economic activities in the territory. The country is also supported by funds from international cooperation (GEF, UNEP, UNDP, FAO), with the respective coordination of a wide range of agreements and institutions, for the execution of projects with non-reimbursable cooperation in the area of biological diversity. In the last decade, recurrent budget allocations to the public sector, including the environmental sector, have decreased[10][13]. This has affected the availability of resources to address climate change and the responsible management of environmental drivers capable of degrading the national environment. An assessment of the main impacts of Unilateral Coercive Measures (UMC) on MINEC's competences included the lack of funding for the control and monitoring of environmental impacts of activities that could degrade the environment and the commitments of the 2030 Agenda for Sustainable Development[11][14].

Given the wide range of regulations and entities associated with the surveillance and control of IAS, it is necessary to develop an inter-institutional coordination mechanism and to update and harmonize regulations and funding sources, in order to strengthen the capacities of the country to detect, combat and eradicate IAS. While Venezuela has established in its ENCBD action plan a strategy on the prevention, control and eradication of alien species in general, the Biological Diversity Department within MINEC coordinates with INPARQUES and other relevant institutions the implementation of the ENCBD, in particular, strategies for control of IAS with an inter-sectoral coordination group, and has successful experiences in the control of terrestrial IAS such as the bullfrog (*Lithobates catesbeianus*) and the African snail (*Achatina fulica*). Aquatic IAS present an important challenge in terms of identifying the pathways of introduction and dispersal, as hence the results from this project will also be a model to promote prevention, early detection and control of terrestrial IAS. An example of the challenges is the report in recent years of the invasion of an IAS with a growing impact, which affects the reef system and related biodiversity, which play an important role in the sustainability of APMC ecosystems. This species was identified as a soft coral of the family Xeniidae, subclass Octocorallia, initially named Xenia sp., and more recently included in a new genus known as *Unomia stolonifera*, which is native to the Celebes Sulawesi Islands, Indonesia. It is presumed to have been introduced into northeastern Venezuela through the illegal aquarium trade between 2000-2005 and has expanded rapidly, severely affecting reef communities.[12][15] This IAS generates changes in both the hard reef substrate and seagrass beds, altering their function of stabilizing sediment, acting as nutrient and carbon sinks, and attenuating wave action, thereby protecting beaches that serve as nesting and nursery grounds for many species, including endangered sea turtles (*Chelonia mydas*, *Caretta caretta*, *Dermochelys coriacea*, *Eretmochelys imbricata*). These grassland and reef habitats also serve as protection and nursery areas for economically important fish, which in turn support the livelihoods of coastal communities. It should be noted that the control of this IAS is a challenge for the country, since the species has not yet been reported as invasive elsewhere in the world and since

the country is located in the "Caribbean Islands biodiversity hotspot", which includes 30 nations and territories, and covers almost 4 million square kilometers of ocean, it represents a potential threat to one of the largest centers of endemic biodiversity in the world due to its geography and climate[13][16].

The invasive behavior of this species is mainly due to its ability to tolerate wide environmental variations, its successful asexual reproductive strategy by fragmentation, with high rates of population growth through rapid colonization of the substrate; in addition to having no recognized biological controllers in the country.[14][17] This aggressive expansion is affecting native coral colonies, causing a gradual loss of the ecosystem services of the MCPA, due to the displacement and even replacement of native coral species. This prevents the efficient absorption of CO_2 from the atmosphere, in addition to fragmenting coral colonies, decreasing the absorption of marine wave energy, since their structures do not form the reefs that hard corals achieve, affecting the climate regulation of marine phanerogams, the purification of water and air, the food supply, the negative impact on human health and the economic services that can deliver the MCPAs[15][18].

Another direct impact derived from the spread of *U. stolonifera* is on small-scale fisheries which is the main economic activity in coastal areas associated with MCPAs. This activity is carried out, in many cases, in shallow areas, where there are currently large patches of this IAS. Fishing gear (fixed nets, traps and the use of trawls) is deployed repeatedly in the same location, providing sufficient time for them to be colonized, or become entangled with the IAS. As part of the fishing practice, these gears are rotated between different fishing sites, which contributes to fragmentation dispersal and expansion of the IAS. Similarly, fractions of the seagrass *Thalassia testudinum* settled by IAS colonies are occasionally broken up, mainly by the mechanical action of boat anchors, outboard motor propellers and the drag of fishing nets, which then float with surface water currents and can travel several kilometers[16][19].

Another important characteristic of this IAS is that it has a complex chemical system based on terpenoids, which is interpreted as a chemical defense system against external stress factors, such as predation, over-coating by adherent organisms, or strong competition for space[17][20], which could also cause health problems for humans. Press reports have published comments and opinions from spokespersons of local fishermen's organizations, where they state the expansion of *U. stolonifera* and the impact it has had on fishing communities and their livelihoods[18][21]. One of the main social and economic problems is the decrease in the sale of fish products, because an "odor" is attached to the fish that comes from the invasive species (terpenes). This was corroborated during a technical visit to the community of El Saco beach, Chimana Grande Island (West Marine Zone of Mochima National Park (PNM), where fishermen and participants in a meeting convened by the environmental

authorities reported the effects that the IAS is causing, including: (a) the accelerated expansion of the invasion of beaches that were of clear and sandy waters, decreasing the visit of tourists to those places; (b) the characteristic odor given off by the IAS, which is incorporated into fishing products and fishermen's skin; (c) the clogging of fishing gear (pots, nets), which restricts fishing capacity; and (d) the coral waste on the islands, which must be accumulated, and which likewise gives off a bad odor, so they choose to incinerate it.

The effects of the invasion occur in four important MCPAs in the country, which is why it is imperative to take urgent measures against this unprecedented scourge: Mochima National Park (PNM), San Esteban National Park (PNSE), Henri Pittier National Park (PNHP) and Morrocoy National Park (PNMor). The greatest invasion is found in PNM, a protected area with a surface area of 94,769 hectares, 52% of which is marine (77,481 ha). It is one of Venezuela's main tourist attractions, provides important environmental services, offers recreation and leisure facilities, and is home to rural agricultural and fishing communities. It is estimated that PNM is home to a population of 49,690 inhabitants.[19][22] Among the biodiversity threatened by this IAS, which has been catalogued as devastating, several species of global importance are identified, such as the endangered species of sea turtles: green turtle (*Chelonia mydas*), loggerhead (*Caretta caretta*), cardon turtle (*Dermochelys coriacea*) and hawksbill turtle (*Eretmochelys imbricata*), the cetaceans long-beaked dolphin Stenobredanensis, *Delphinus delphis*, *Stenella frontalis*, *Stenella longirostris*, *Tursiops truncatus*, and the sand whale *Balaenoptera edeni*; the corals *Colpophyllia natans*, *Diploria strigose*, *Montastraea annularis*, *Millepora alcicornis*, *Madracis decactis*, and *Acropora palmata*. As for other components of the marine biodiversity present in this MCPA, some publications report 18 species of echinoderms including sea spiders (ophiuroids), also sea cucumbers (holothuroids), sea urchins and stars (echinoids), 120 species of bivalve mollusks, gastropods, cephalopods, 25 species of crustaceans, 36 species of polychaetes, 22 other types of stony corals, and 7 species of soft corals, 6 species of anemones, 12 species of sponges, 286 species of fish, 196 species and subspecies of benthic marine algae, and four species of marine aquatic plants.[20][23]

In the last eight years, national authorities and NGOs have collated ecologic information to understand the IAS dynamics, and in particular the situation of the invasion of *U. stonolonifera* and the possibilities to manage, control and eradicate it[21][24]. This is especially important considering that *U. stonolonifera* has not been reported as IAS but in the southeastern Caribbean sea. In 2014, the first incidence in the coral communities of eastern Venezuela was reported. Between February and December 2016, MINEC and Inparques implemented the "Program for the control and monitoring of the exotic invasive coral Xenia sp., in the Mochima National Park", to monitor and map affected areas, carry out surveys with fishing communities of the PNM to record the presence or absence of the invasive coral and sensitize the inhabitants and visitors of the park, about its biology and ecology, to avoid its vegetative propagation[22][25]. By 2021, the relatively rapid expansion of *U. stolonifera* in Venezuelan reefs was studied by local NGOs, La Tortuga Foundation and La Salle Foundation, showing that in the area of Valle Seco, that borders the PNM, *U. stolonifera* had covered 80% of the existing coral reefs[23][26]. Furthermore, MINEC published in 2022 the document "Invading exotic octocorals", where with technical support from the Pilares Marinos Foundation, a NGO specialized in aquariums, conducted

a trial during 2021 on the coast of Patanemo Bay, Carabobo state (northern central coast of the country), with manual removal in an area of 621 m², for eight weeks. In 2023, one year after the trial, no new colonizations have been reported, as communicated by Fundación Pilares Marinos personnel[24][27]. On the other hand, La Tortuga Foundation, through its "Unomia Project", is working on experimenting with a suction or turbine system that sucks in the invasive coral, detaching it from the substrate without affecting the native species that could be in the surroundings, as described by this NGO. Is expected to add a processing system to the turbine that will disintegrate and burn at 80°C the extracted colonies, killing the tissue and preventing it from being viable or leaving active larvae. This methodology is based on the ones used in Hawaii for the control of the invasive red algae *Kapaphycus alvarezii* by suction, and the control of the invasive anemone species *Rhodactis howessi* in the Indo-Pacific, using water at high temperatures. Relevant stakeholders at the national level have also identified other international experiences and mechanisms of control and mitigation in IAS such as *Undaria pinnatifida* in Argentina and *Tubastraea coccinea* and *Tubastraea tagusensis* in Brazil. Currently, national universities (Universidad de Oriente, Universidad Central de Venezuela, Instituto Venezolano de Investigaciones Científicas) have started research on the dynamics of the coral. However, despite these efforts, *U. stonolifera* continues to expand in the country, which is the reason why this species has been selected as a pilot due to the challenge it poses for its control, requiring an integrated and comprehensive approach including national institutions, academy, NGOs and communities[25][28].

In view of the evident advance of the environmental threat posed and to have a long-term solution for the control of these and other aquatic IAS threats, which could be alternatives to achieve global environmental benefits (GEB) in these critically affected national ecosystems, the country must overcome the following obstacles or barriers:

Barrier 1: Inadequacies in the legal, institutional and financial framework to promote the integrated management of aquatic IAS in the country.

In Venezuela there is a national regulatory framework that addresses the introduction of exotic species, which needs to be updated because the application and enforcement of regulations and programs for the prevention, monitoring and control of IAS has been inconsistent, especially with regard to their impact on biodiversity. Although Strategic Line 5 of the ENCDB National Action Plan 2010-2020 defines specific actions to carry out detection, prevention and control of exotic species, its implementation has been limited due to insufficient integration and harmonization of legal regulations and authorization processes (exotic species import permit system) that the institutions involved in the issue are responsible for, which are related to control or quarantine activities. In this regard, procedures vary significantly among the different sectors, since other intra-institutional mechanisms have been established (agricultural sector, fisheries, health, aquatic areas, customs and the Public Prosecutor's Office) to take action on vectors and pathways for the introduction of IAS. There is limited institutional and budgetary operational strength to address surveillance and control functions. In the last decade, the country has had a drop in incomes, with consequent decreases in budget allocations to the public institutions, including MINEC. This impact has been augmented by the unilateral coercive measures imposed on the country, which has hindered MINEC competencies to carry out its activities in control and monitoring of environmental impacts, including IAS, among other commitments such

as those of the 2030 Agenda. Furthermore, organizational changes within the national environmental authorities made difficult for the State to develop partnerships with public universities to promote research on IAS, such as *U. stolonifera*. Therefore, additional funding mechanisms are needed to expand management actions to cover IAS that pose a risk to biodiversity and ecosystem services. There is a need to raise awareness of this issue among all stakeholders, especially policy makers, institutions and communities, for collective national management.

Barrier 2: Limited knowledge and capacities at the national and local levels on the management of aquatic IAS.

Measures to address control of the introduction and spread of IAS are considered the responsibility of the government and not always of society in general, especially in the local communities of protected areas, which are the most vulnerable to the threats posed by invasive species. Information on the presence of IAS is often inaccessible to stakeholders whose actions have consequences on the spread of IAS; or it is not disseminated in a practical and relevant way so that these stakeholders can use it to support biodiversity management; as a result, public support and participation in IAS management is very limited. The ENCDB 2010-2020 contemplates the creation of the Surveillance and Control System for IAS traffic, in ports, airports, customs or other control points, as a joint work between MINEC agencies responsible for the environmental guardianship, the territorial environmental management policy and the local networks of environmental guardians, community councils or other forms of national citizen organization, to support early warning plans. However, its implementation has been conditioned to the collaboration of what is available in the areas, both in institutional support and of communities, who are not adequately trained and equipped to undertake some measure of containment of the introduction of alien species. Biological and ecological knowledge of the species is often insufficient, and there is no technical capacity for risk analysis or knowledge of the socioeconomic repercussions of the effects; therefore, the impacts of IAS that simultaneously affect biodiversity, the production of various sectors, including human health and local livelihoods, are unknown. The official list of IAS is not updated, and an inventory of the most affected areas has not been drawn up; even though MINEC has a platform called the Biodiversity Information System, it is not operational, so the more general impacts and the trajectory of the spread of IAS are not disseminated. Furthermore, the design of protected area management plans generally does not address IAS management, and in cases where IAS management activities have been tested, lessons learned are rarely shared inter-institutionally. Therefore, there is a lack of practical experience in preventing the entry, control and management of IAS, and the degradation they cause in ecosystems, especially in the coastal and insular marine environment.

Barrier 3: Insufficient control strategies for aquatic IAS and low capacity of local communities to adopt sustainable socio-productive alternatives in response to environmental threats.

The health of the aquatic ecosystem of MCPAs and the biological biodiversity present in these areas of the country are the fundamental basis for the livelihoods of local communities, recognizing that fishing and related activities sustain the local economy and generate multiplier effects in other adjacent sectors. Therefore, the degradation of marine ecosystems and fish stocks due to the introduction and spread of an aquatic IAS is a major threat to the livelihoods of anglers and local communities in general. Although the environmental management authority has taken recent actions to address this problem, its actions have been limited due to insufficient technical knowledge as well as limited resources and capacity to contain its spread, as it is the case of the invasion of *U. stolonifera* in MCPAs. The research and knowledge on *U. stolonifera* as IAS is limited, only been reported as such in the southeastern Caribbean sea, being most of the studies carried out in its native environment by foreign experts. Its ecology and interactions with local biodiversity and also the role of

local communities is under research in the country, identifying vectors for dissemination that are critical for its control and that could explain its rapid expansion. Similarly, national institutions, academy and NGOs are studying the impacts of *U. stolonifera* on the environment, but also in local economies. Incipient research is being made on mechanism for its control and eradication, based on experiences in other countries in similar species, but experiences have been isolated and not part of a comprehensive strategy, and analyses on cost-effective alternatives must be further developed and financial sources identified, in the context of the decrease in incomes in the country mentioned in barrier 1. On the other hand, it is necessary to update the information on various aspects of the condition of the ecosystem within the affected areas, make a diagnosis of the colonization and condition of the invasion, of the native or endemic species affected, and promote feasibility studies for the suggested restoration/rehabilitation programs, among others, since this will help to define the priorities for action on the situation. Likewise, all those control mechanisms or mitigation actions that are feasible to apply on this IAS must be tested to consider the viability of being successfully applied in all threatened areas. The contingency also affects the livelihoods of local communities, where there is a weak identification of the effects of the environmental problem on the daily activities of local inhabitants. The focus of community participation, in addition to intervening as part of the local management of IAS, should be to articulate their productive work with other sustainable socio-productive alternatives that support the control of aquatic IAS.

In view of the above, the purpose of this project is to transform and broaden the current scope of the management of aquatic IAS, given the evident advance of the environmental threat that compromises the Venezuelan reef ecosystem, which is estimated to be distributed in 12 locations within approximately 20,000 ha of MCPA[26][29], and potentially endanger other important areas of the Caribbean. There was considerable inter-institutional work in the country and more recently MINEC promoted a program for the management of exotic species, the bullfrog (*Lithobates catesbeianus*) and the African snail (*Achatina fulica*), which are part of the baseline of importance for the project, as contemplated in the ENCDB 2010-2020. However, there are certain gaps in updated scientific information regarding the presence of invasive or potentially invasive alien aquatic species, as well as limited knowledge of the ecological and socioeconomic processes associated with them, technical capacity and information systems. Therefore, a common national vision for coordination and resource allocation should now be promoted, in addition to institutional responsibilities that should be reinforced to strengthen the management of aquatic IAS.

MINEC will coordinate the preparation and execution of the project, through which the Working Group of Experts on IAS will be reactivated, including other national agencies (INSAI-MPPAPT, Minpesca - CENIPA, Mincyt, Minedu, Mines, Inparques, MinT-INEA[27][30], Universities, non-governmental organizations). The recently reorganized General Directorates of MINEC will be actively involved in the collective construction of the priorities of this project: General Directorate of Biological Diversity, Strengthening and Defense of Biodiversity, Adaptation to Climate Change, Climate Change Mitigation, Climate Change Monitoring, Ecosystem Management and Conservation Policies, as well as Inparques and Fundambiente (Foundation for Environmental Education). Interinstitutional coordination is also promoted with the MPPAPT, within the national programs developed by INSAI, regarding epidemiology, phytosanitary surveillance, animal health control, animal and plant quarantine, and the lessons learned from the risk analysis system implemented by this agency. With MINPESCA, support will be provided for programs related to the management of native species subject to cultivation; with the sanitary, surveillance and control capacities of this agency, present in

ports and airports; as well as the lessons learned from the programs with community organizations and fisherwomen, known as Conppa[28][31] and the knowledge that CENIPA, an agency attached to MINPESCA, has on research carried out in the sector. With INEA, actions will be agreed upon to facilitate the management of information on the baseline studies developed by this entity for ballast water management in the different areas where shipping activities are carried out. With Mindefensa[29][32], will continue to support the environmental nursery and control of access routes at ports, airports and key control points for the introduction of IAS into the national territory. With the Ministries of Education and Higher Education, academic environmental education programs will be strengthened with the theme of IAS; in addition to contributing to capacity building in local communities and at the national level; and the exchange and cooperation of universities will be promoted. The Ministry of Science and Technology will coordinate with affiliated research institutions the research required within the scope of the project and will assist them through Fonacyt[30][33]. With the People's Ministry of Economy, Finance and Foreign Trade, through the National Integrated Customs and Tax Administration Service (SENIAT), the protocol for the entry of goods that threaten national biodiversity, the existing tariff regime and the design of the financing mechanism for the sustainability of IEE management will be reviewed. With Minmujer[31][34] and the Ministry for Communes and Social Movements, the lessons learned from the experiences that both entities have in the organization for local production and for the empowerment of women will be integrated to increase the capacities to form networks and environmental brigades; particularly these lessons will be captured in components 2 and 3 of the project. Minturismo[32][35] will also work closely with organized communities and the private sector to support local people's initiatives to improve the sustainability of their livelihoods and will participate as a member of the financing mechanism that will promote integrated management of IAS. NGOs and other environmental groups will contribute their knowledge of natural resource management to participate in the collective construction of the new regulations as part of component 1; they will participate in raising awareness and disseminating information within components 3 and 4, and will cooperate with the results of the tests that have been carried out with MINEC support in the areas most threatened by *U. stolonifera*. Other private sector actors will contribute to the financing mechanism and to the dissemination of information on the project's products.

The project is innovative for the country because it is part of the GEF8 strategic shift, as it takes an area management approach using multiple tools to respond to the drivers of biodiversity loss, aiming to develop a comprehensive system for detection, control and management of aquatic IAS, considering the strengthening of the institutional framework, national technical capacities, update national standards and develop practical, cost-efficient and scientifically based protocols in order to avoid potential unintended risks. Furthermore, the proposed project guarantees a cross-cutting approach, where numerous ministries with different governmental responsibilities will be articulated to contribute with harmonized solutions to combat the threat of aquatic IAS, positively impacting early detection and prevention actions. The experimental management pilot with mechanical and biological controls, adapted in the country for the containment of *U. stolonifera*, will be carried out by integrating communities in the design, implementation and monitoring of these actions, as part of the

complementation of traditional training, awareness and knowledge sharing activities to build a practical appreciation of IAS management. A financing mechanism will be consolidated to support the sustainability of the project's results over time and, by reaffirming inter-institutional integration, the project will not start from scratch, as it will use the platforms present in the organizations, both in terms of organization and capacities. By the end of the project, Venezuela will have a new system under implementation to detect, control and manage aquatic IAS and coordination mechanisms among public institutions, academy, NGOs and communities, with updated technical information, a better understanding on the mechanisms of entry and dispersal of IAS, and proven protocols which will strengthen the national capacity to monitor and provide adaptive solutions to address possible changes in the drivers of loss of biodiversity due to IAS.

The project will also take advantage of the experiences and lessons learned from other GEF-funded projects such as:

- "Strengthening the Financial Sustainability and Operational Effectiveness of Venezuela's National Parks System" (GEF ID 3609): lessons on involving local communities in the management of ABRAEs and their buffer zones.

- "Strengthening of the Marine-Coastal Protected Areas System (APMC)" (GEF ID 3865): consolidated the Marine-Coastal Protected Areas System, and obtained a Master Plan for the Management of the APMC, with a database of environmental and social information, which will be used as a Baseline for the four (04) key APMC and will use the mariographic stations installed by this project for real-time monitoring of environmental conditions. In addition, co-management agreements were reached with the local communities of the MCPAs, together with INPARQUES, to form the "Local Networks of Environmental Guardians", which will be taken into account to support the early warning plans that will be designed in this proposal. The results of the management effectiveness analysis will also be used to design the financing mechanism that will promote the integrated management of IAS in the country.

- "Implementation of the National Biosafety Framework in the Bolivarian Republic of Venezuela, in accordance with the Cartagena Protocol on Modern Biosafety" (GEF ID 5290): lessons learned regarding the establishment of a platform of legislative, regulatory, social and infrastructure measures to implement the Cartagena Protocol in Venezuela, in order to contribute to the global conservation and sustainable use of biological diversity. There are also lessons learned from trials carried out by MINEC (through the Directorate of Biological Diversity, INPARQUES) and a group of non-governmental organizations (NGOs), in small control units, where the extraction of IAS was experimented with mechanical and chemical removal methods, with the support of stakeholders; The pilot experiences of repopulating marine areas as potential biological controls of IAS (sea cucumbers and algae, both native fauna species) are an important step forward in promoting IAS control approaches and alternatives.

- Experiences from other GEF projects on national IAS strategies in the region, such as GEF ID 4768 in Argentina and GEF ID 4771 in Mexico, have been considered in the design.

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B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

The project will complement national efforts to strengthen the institutional framework for the detection, prevention and control of Invasive Alien Species (IAS) and implement the ENCDB National Action Plan 2010-2020, in its Strategic Line 5, on the Prevention, Control and Eradication of Alien Species, as well as complement the investments made by the Venezuelan government to address the impact of IAS on the country's biodiversity. In the absence of the development of this project, the country will face a persistent threat to its biodiversity from the introduction of exotic aquatic species and the lack of active mechanisms for their management, in particular the globally important coral reef ecosystems and the biodiversity they support along a wide area of the Venezuelan coast will continue to be highly vulnerable to extensive degradation and loss of biodiversity. The project is designed to address the barriers identified in section A and has been structured in line with the objectives of the GEF focal areas, providing solutions with a system vision, with a multidisciplinary approach that impacts the dynamics and operability of local communities, society, commerce, tourism or other productive alternatives in the affected regions, contemplating four (04) components.

Institutional strengthening for the management of IAS (Component 1) focuses on mechanisms to prevent the introduction of aquatic IAS, where all gaps in the legal, regulatory and methodological framework will be reviewed, in accordance with the contents of the National Action Plan of the ENCDB 2010-2020, in its Strategic Line 5, on the Prevention, Control and Eradication of Exotic Species. This project will promote the reactivation of the Inter-sectoral Coordination Group on IAS (GCIEEI), creating a Section on Aquatic IAS, in charge of inter-institutional and inter-sectoral coupling, in terms

of reviewing, harmonizing and updating the national legal regulations of all state institutions for the introduction and management of exotic aquatic species, carrying out consultations and maintaining the exchange of information between ministries and other interested parties, carrying out validation processes. An operational plan will be developed jointly, with working groups according to the topics to be developed, objectives, budgets and chronology for the supervision and follow-up of the actions that support the implementation of the contents of the National Action Plan of the ENCDB 2010-2020, which establishes the integrated management of aquatic IAS. MINEC's legal department will be involved in this process, in order to conduct internal procedures for formalizing the national legal regulations developed. When developing the new legal framework, there will be inter-institutional linkage in terms of authorization procedures, risk analysis, quarantines and protocols that will be applied for the management of aquatic IAS, where early detection activities of new IAS, monitoring and border control of IAS traffic, among others, will be addressed; in addition to incorporating into the national regulations what is contemplated at the international level on the management of IAS (Products 1.1.1 and 1.1.2). An innovation in MINEC's institutional coupling is to work with the Marine-Coastal Protected Areas System (SAPMC) by incorporating the management of aquatic IAS within the Master Plan for the Development and Management of the SAPMC and in the respective existing Management, Regulation and Use Plans (PORU) for the four (04) key MCPAs, which will be updated through the actions developed within the framework of the project. It should be noted that this SAPMC has a baseline study of these protected areas, so the MCPAs with the greatest threat will be identified as a priority to be addressed, and relevant strategies will be established to control the expansion of the IAS (Output 1.1.3). On the other hand, this component will increase the financial resources required for the management of exotic species. Therefore, an analysis of the economic costs (cost-benefit or cost-effectiveness) that impact the four (04) key MCPAs due to the introduction of aquatic IAS, in terms of damage to ecosystems and economic consequences in terms of loss of productivity, sources of tourism and others, will be made (Product 1. 2.1) and a financing mechanism will be designed to channel the necessary budgetary resources to guarantee the long-term sustainability of actions linked to the integrated management of aquatic IAS. In this regard, the project "Financial Sustainability of Venezuela's Marine-Coastal Protected Areas, Case Study: Los Roques Archipelago National Park" will be used as the basis for the project developed by MINEC in 2019[1][36], which analyzed the management effectiveness of this National Park, whose methodology made it possible to evaluate the strengths or weaknesses in the programs, phases or areas of management of this protected area, making it possible to highlight the difficulties faced by administrators in achieving conservation objectives. Lessons will also be drawn from the aforementioned GEF ID 3865 project, which enabled the design of a Financial Plan for the SAPMC, with basic financial, institutional, socioeconomic and environmental information for seven prioritized PAs and designed mechanisms to increase and diversify the income of these areas (Output 1.2.2). It is worth noting that INPARQUES has recently defined a Strategy on Financial Sustainability for natural parks, which will be linked to the Financial Plan to increase this entity's support for the management of aquatic IAS and provide economic sustainability to the results, that will include incomes from different sources, such as providing a percentage of resources from tourism, aquarium trade, aquatic transportation, commercialization of fish products and other related sectors, which are known to have important economic or social values for the country. The assumptions associated with this first component include inter-institutional readiness for effective IAS management, good ministerial cooperation and that of all stakeholders, as well as the political will to carry out the necessary reforms, and sufficient budget (institutional and other government funds) to leverage resources from various sources for the sustainability of this management. A risk associated with project implementation is the lack of

coordination of the proposed legal and institutional reforms, which may result in a limited or weak financial and institutional framework for the prevention and control of IAS.

In order to improve operational management to prevent the introduction of IAS or potentially invasive alien species into the country, institutional and community capacities will be strengthened for the integrated management of aquatic IAS (Component 2), which will help strengthen the control of those species that are harmful to national and globally significant biodiversity, based on the legal framework that will be updated and harmonized for the management of aquatic IAS (Output 1.1.2). Border control and early detection mechanisms for the management of aquatic IAS will be strengthened by implementing the National System for the Monitoring and Control of Aquatic IAS (SINVCEEIa), a mandate that will be expressed in the updating of the legal regulations that are being developed in Component 1. To form the SINVCEEIa, the knowledge and technical capacities of government officials with surveillance and control responsibilities in ports, airports, customs, checkpoints and other control points will be increased through the strengthening of risk analysis tools, protocols, authorization processes, best practice manuals based on the precautionary principle, terms of reference, mobilization guides, codes of conduct and early warning plans, which measure the invasion, impact and potential distribution of aquatic IAS; This is in addition to what has already been implemented by the different national institutions related to the introduction of exotic species, which have advanced processes, routes and pathways associated with the entry of such species (Output 2.1.1). This first step contributes to the reactivation of Venezuela's Biodiversity Information System (SIDBVEN), incorporating the module for information, monitoring and evaluation of aquatic IAS, which in turn will be interrelated with information provided by international organizations specialized in IAS (GISD, GISP, ISSG-IUCN, WHO). The SIDBVEN will contain scientific, technical and social processes information associated with IAS and their effect on ecosystems, in addition to the national or global geographic distribution (Output 2.1.2, supporting Outputs 4.2.1, 4.2.2 and 4.2.3). Likewise, through SIDBVEN it will be possible to detect, identify and describe IAS in real time (through the PPP designed in Output 2.2.2) - recognizing habitats, the species they affect and even the effects of climate change - so that the technical personnel linked to the National Aquatic IAS Surveillance System (SINVCEEIa) can make decisions on risk analysis, prevention, early detection and control. Within the Inter-sectoral Coordination Group on IAS (GCIEEI), the Committee for updating the Official List of IAS, with emphasis on aquatic exotics, will be made up of representatives from each of the governmental institutions involved in the introduction of exotic species, as well as experts, academia and private organizations, to define the taxonomic groups and prioritize such groups, leading to the updating and preparation of new lists, carry out a review of documents and biological collections, carry out consultations by taxonomic groups to generate the annually updated list (Output 2. 1.3, linked to Output 4.2.1). Through this component, SINVCEEIa will be linked to the Network of Environmental Brigades, which is made up of community organizations and other interested parties, created as a result of the participatory process promoted in the country constitutionally and through the People's Power Law. The purpose of this Network of Environmental Brigades is to intervene in the early warning actions designed and to cover the areas of incidence of aquatic IAS. To this end, the objectives of the Network will be defined based on the early warning plans developed by the pertinent authorities and in collective construction with all the entities involved, organized groups will be identified, to which training courses will be given in environmental guardianship, with important scientific information on the approaches for the control of IAS, legal regulations for the control of the entry of exotic species and the functioning of the early warning system (Output 2.2.1). To support this tactical effort, the project designs a Training, Communication and Awareness Program based on collective management that promotes decision-making at the local, regional and national levels, aimed at increasing the flow of information on biological diversity among generators, managers and disseminators (officials of related government agencies, security, defense and control personnel, the

general public and stakeholders involved in the control of IAS). The project aims to increase the flow of information on biological diversity among generators, managers and disseminators (officials from related government agencies, security, defense and enforcement personnel, the general public and actors that function as information multipliers), as a boost to knowledge management, foster critical citizen awareness, promote opportunities for training in biodiversity conservation, disseminate the social importance of biodiversity, the consequences of threats from the introduction of IAS and the effects on the sustainability of the livelihoods of communities living in areas adjacent to the zones where IAS are established (Output 2. 2.2, linked to Outputs 4.2.1, 4.2.2 and 4.2.3). In coordination with "MINEdu, MINES, MINCYT, MINPESCA, MINTUR, MINMUJER, MINEC" and other government institutions, universities and the private sector, meetings and knowledge exchange will be held in community schools and other collective meeting places. Participatory activities will be carried out with women and children of the communities in the selected ABRAEs, so that the designs or drawings of the informative material will be the product of these meetings of knowledge, and the communities will identify their contribution to the solution of the environmental problem. Strategies and means of communication will be available to massively disseminate information on the importance of biological diversity and the threats posed by IAS, including an application for smart phones (application designed within the framework of Output 2.2.2), with data on the location of the IAS present in the country, common names and images, which will help the population in real time to identify and notify the relevant authorities of the presence of IAS. A risk associated with this component of the project will be the collection and evaluation of the quality of information, the formation of expert groups to prepare the official list of exotic species present in the country, update the information system on biological diversity and train the required capacities to consolidate the management of aquatic IAS.

As a way to implement this new institutional framework that integrates communities in the management and control of IAS, a pilot experience of participatory community control of the IAS *U. stolonifera*, recently introduced to the country, with a level of dispersion that already threatens the reef ecosystem and related biodiversity of four (04) key APMCs, as well as the livelihoods of the surrounding coastal communities, will be carried out. This pilot will also provide sustainable socio-productive alternatives to contribute to habitat restoration in the four (04) key MCPAs (Component 3). A containment approach for *U. stolonifera* will be validated, previously by collecting a quantitative baseline of IAS colonization in the reef system (Output 3.1.1), identifying areas where there is an early level of invasion and eradication is possible. In these areas, pilot procedures of removal will be tested, based on international experiences on similar IAS, and national experiences on *U. stolonifera*, and also implement activities to restore the habitat. The project will also identify areas where due to higher densities of the IAS, eradication does not appear as a viable option during the project lifetime. Actions there will be targeted at reducing local abundance and extension of the invasion in order to reduce the risk of spread by means of reducing propagule pressure. Complementary, actions will be taken to manage vectors in order to minimize the probability of transporting the species to other sites. Control operations will be organized following a strategy of adaptive management, including control areas with no intervention and indicator of both the effectivity of the control operations on the IAS and the response of the affected ecosystem. The management strategy with mechanical and biological control will be implemented and scientifically validated, generating the removal protocol for the control of the IAS U. stolonifera, (Output 3.1.2), in order to safeguard and restore biodiversity and ecosystem services in those protected areas delimited in the MCPAs Master Management Plan (Output 1.1.3). This approach will contribute to establish a protocol that will strengthen the national aquatic IAS management system in the country. The basis for this pilot are those experimental removal trials previously carried out by MINEC, INPARQUES, Fundación Pilares Marinos and Fundación La Tortuga (Proyecto Unomia), in addition to new viable control proposals made by researchers and experts who have been consulted,

including research supported by MINCyT. It should also be noted that the Ministry of People's Power for Fisheries and Aquaculture (MINPESCA), which has the technical capabilities and lessons learned as part of its functions as the regulatory body for the nation's fisheries and aquaculture activity, and is also in charge of the National Center for Fisheries and Aquaculture Research (CENIPA), where there is a body of experts in the field, who also carry out research in this area, will contribute to the project. The experimental management strategy proposed for the control of *U. stolonifera* will include the analysis of the invaded area, including the establishment of a baseline of the state and constitution of the reef ecosystem (identification and density of native species, which will be the focus for restoration). The distribution of *U. stolonifera* in the intervention areas will be defined, using tools that allow mapping the four (04) MCPAs to initiate control actions; early detection and early control in those places where the inhabitants suspect its presence, due to the appearance of small patches of the IAS. *U. stolonifera* removal activities will be carried out by means of mechanical controls -manual, ultrasound[2][37] and super sucker[3][38]- In those MCPAs where it is feasible, the capacities of local community organizations will also be involved in a participatory manner, including a gender equity approach, which will be previously prepared by specialists (Products 3.1.2, 3.1.3 and 3.1.4). Regarding biological controls that could mitigate the advance and invasion of IAS, pilots will be designed with the experience of native species present in these MCPAs, especially in Mochima National Park, such as the macro-algae *Eucheuma isiforme* [4][39],[5][40] and sea cucumber *Holothuria mexicana* ***[6][41],[7][42],[8][43]***, which could have multiple benefits for the ecosystem and the local community. In particular, during the technical visit to the community of El Saco beach, Chimana Grande Island (Mochima National Park), local fishermen mentioned that they could see that there was no growth of invasive coral in those places where the cucumber was present, at least not around them, and that they noticed a significant decrease of this cucumber species within the Park. With respect to macroalgae cultivation, it could help mitigate the advance of invasive coral because: (i) the floating structures used for macroalgae cultivation could generate shading that would limit the growth of dinoflagellates, which are part of the zooxanthellae that symbiotically keep corals alive by providing them with the necessary nutrients; ii) macroalgae would also compete for these same nutrients required by the IAS, and iii) the culture systems also serve as shelter and substrate for a great diversity of fish and invertebrates that fulfill part of their reproductive cycle under this culture, which is now compromised by the invasion of *U. stolonifera*. In this way, the cultivation of algae could contribute to the increase of biodiversity and regeneration of the main species affected by the invasion of the IAS[9][44],[10][45],[11][46]. In Venezuela, experiences have recently been carried out with private actors that are cultivating sea cucumbers, in a joint agreement between the company Fundación del Mar (Fundemar) and the scientific station of the Universidad de Oriente-Núcleo Nueva Esparta; and on the other hand, the company Biorma Aquaculture C.A., which works with the macroalgae *Eucheuma isiforme*, under suspended culture systems. The

proposed biological control pilots will be carried out in the areas of the PNM that are previously selected with the environmental governing body and the scientific community that supports the project. For these activities, an agreement is also established with the organized local community, which will be previously trained to support these activities (Output 3.1.4). All these activities will be monitored to follow up on the results of the control actions, as well as the native ecosystem restoration process with the Native Reef Active Restoration Program and the respective training of the local community to work on reef restoration (Output 3.2.1 and 3.2.2), as a complementary tool to support natural recovery after *U. stolonifera* disturbances. This Restoration Program will be designed according to the knowledge of the disturbed coral community and the feasibility of survival of the repopulation, according to what was characterized in the baseline and the technical feasibility previously carried out. To the extent of the intervention implemented in the four (04) key APMCs, the descriptive protocol of the actions carried out for the control of *U. stolonifera* will be elaborated, which will be handed over to the ministerial authorities for its officialization as a legal norm, accordingly, with the products of Component 1 (Product 3.1.3). The information on the progress and lessons learned from this experimental management and descriptive protocol will be disseminated as a basic document to contain the species in other areas that report invasion by this IAS; through the training, communication and awareness program aimed at generators, managers and disseminators (Output 2.2.2 and 4.2.3), through which the efforts made by Venezuela to protect the reef ecosystems and biodiversity of the Greater Caribbean from the effects of this IAS will be made known.

All experimental management strategies, both mechanical and biological control of the IAS, and the Active Restoration Program of the Native Reef, will be developed jointly with the national scientific community, specialists in the field of marine sciences and will consider consulting with recognized international experts who have worked in the management of invasive coral species and reef restoration, which will also validate the methodology. Within the control activities, the waste of the *U. stolonifera* once removed will also be evaluated, with the purpose of knowing its components and potentialities; therefore, it will be collected in a center arranged for them by MINEC- MINPESCA, where it will be treated as established by the researchers' consultation. During the formulation stage, the costs of applying the proposed manual and mechanical removal techniques will be evaluated in order to budget the investment to be made by the government and the incremental contribution of the GEF. In the collective construction of this approach, the governmental tourism entity MINTUR and the private sector related to tourism and underwater activities will be linked to obtain the necessary technical cooperation of specialized personnel (certified divers), and other financial support to back up the execution of the activities. Assemblies will be held in the communities of the affected areas, so that they have information about the pilot to be executed, and to select talents from the communities that can accompany this exercise. Training workshops will be held for all the people involved in the mechanical and biological control activities. Monitoring before and after sanitation of the affected area will also be carried out by the components of the Environmental Brigade Network established in the fishing communities, which also involves women and their families, especially active young people (Output 2.2.1), who can observe possible new outbreaks of IAS in the sanitized areas.

With regard to the impact on the inhabitants of the communities surrounding the APMCs, due to the invasion by *U. stolonifera*, which interferes with the natural development of their livelihoods and food security, a program will be designed to support the diversification of economic activities, improve local livelihoods and strengthen sustainable socio-economic development to mitigate the impact of the IAS, in line with the Master Management Plan of the MCPAs and the Management and Use Plan (PORU) of the key invaded areas (Output 1.1.3). To this end, this project will rely on joint action between the

technical capacities present in MINEC, MINPESCA, MinMujer, Ministry for Communes and Social Movements, to conduct surveys to identify the productive vocation of the localities, the characterization and evaluation of the economic activity of fishermen, women, and family groups. On the basis of environmental education, a training program will be carried out to help local residents manage alternatives for environmental conservation through creative recycling, such as transforming plastic or cardboard containers into handicrafts or utensils for domestic or ornamental use, which will bring them countless benefits such as reducing the volume of household waste and saving energy and natural resources (Output 3.3.1). Likewise, participatory meetings will be held to define economic alternatives, including tour guides, use of native algae as a biological control (Output 3.1.4), adding value to fish products by women or their families, and supporting this training program with agreements between government institutions and the private sector related to ecotourism. Mangrove reforestation is a MINEC program under the Tree Mission, and is therefore part of the actions contemplated in the Master Management Plan for the MCPAs and is executed as part of MINEC's recurrent actions. The *Master Management Plan* for the MCPAs will be updated to incorporate sustainable production practices resulting from the project, which in turn will contribute to the conservation and restoration of vulnerable ecosystems (Output 3.3.2).

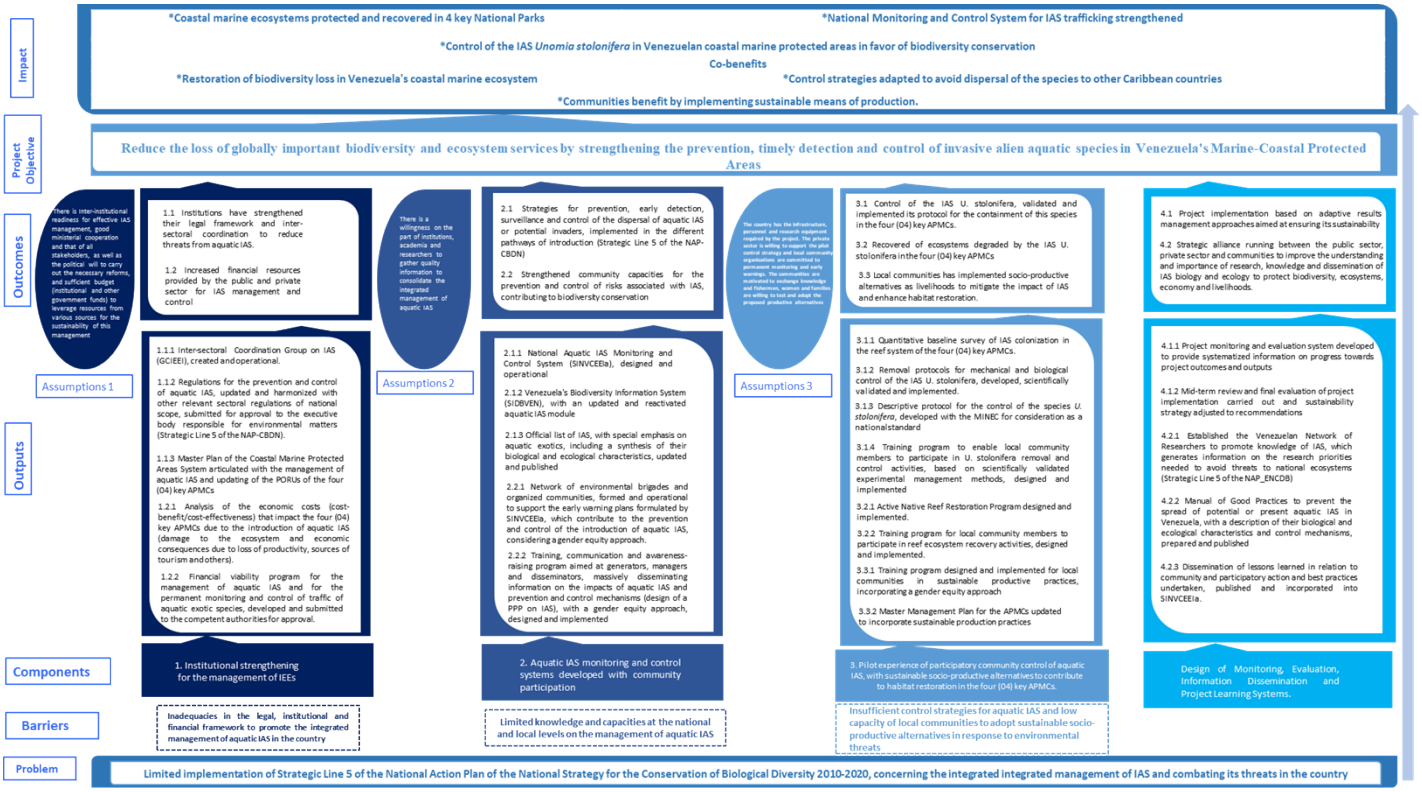
In addition, emphasis is placed on women's participation in the national fisheries sector, as part of gender equity. This project will also rely on the lessons learned and the technical capacity of MinMujer and MINPESCA in these activities. In fact, there are several women leaders or spokespersons of the fish producers' organizations within the MCPAs, therefore, as project actions, mechanisms will be strengthened so that their intervention continues to be visualized. In this sense, at the beginning of the project, updated information should be gathered on the situation of women in fishing and related activities; in which social and productive organizations they participate; their academic level and their needs for technical training and support for their domestic activities. Likewise, experiences carried out by women or in which they have a significant participation in actions related to biodiversity conservation will be identified, and their knowledge of organizational issues will be reinforced, which will help to take their point of view into account in the development of other activities in the community. The productive diversification of women's work, for income generation, will be identified and the incidence of these in the family or local economy will be identified. All these actions will be documented and supported by the testimonies of women and men participating in the project. The project envisages that the technical capacities of the institutions involved that will support the project's social activities will be strengthened in terms of gender, cultural sensitivity, strengthening of community capital, among others, so that they have the appropriate working tools and can monitor compliance with the actions designed, a task that will require an inter-institutional alliance between MINEC, MINEdu, MinMujer, Ministry for Communes and Social Movements (Products 3.1.4 and 3.2.2). The main assumptions aimed at fulfilling the scope of this third component are that the country has the infrastructure, personnel and research equipment required by the project, that the private sector is willing to support the pilot control strategy and that local community organizations are committed to permanent monitoring and early warnings. Likewise, there must be motivation in the communities for the exchange of knowledge and willingness of fishermen, women and family groups to test and adopt the proposed alternatives and that it is a topic of interest and priority for them. An inherent risk in this component is that the IAS control pilot may have practical limitations, interfere with the fishermen's access to resources or the livelihoods of the people who live in or make use of the intervened area.

With project implementation based on a results-based approach, which applies to the scalability of this process, the Monitoring and Evaluation component (Component 4) ensures that a review of

project progress from outputs to outcomes, timely external evaluations, identification and recording of lessons learned and best practices in project implementation are carried out. The specific elements involved in the development of the project will be taken into account and systematized in order to know the progress in the fulfillment of the activities involved in the achievement of the results (Output 4.1.1). Progress reports will be prepared, means of verification will be designed to analyze the causes of deviations and measures will be established to correct project activities (Output 4.1.2). As part of the project's contribution to knowledge management and compliance with international and national biodiversity conservation goals, an agreement between government agencies, the national academic institutions involved and the private sector will be designed to promote the creation of the "Venezuelan Network of Researchers to promote knowledge of IAS", through which information will be produced on the research priorities needed to avoid threats to national ecosystems (Output 4.2.1). Likewise, publications will be produced as environmental education tools that will be linked to Component 2, Output 2.2.2. A "Manual of Good Practices to prevent the spread of potential or present aquatic IAS in Venezuela, with a description of the biological and ecological characteristics and control mechanisms, as an important educational and dissemination tool for the effects of introducing an IAS into an ecosystem outside its natural environment (Output 4.2.2). Other lessons learned from the project will also be disseminated with respect to the exchange of information and knowledge on biodiversity and the drivers of climate change, the gender dimension in fishing communities, the strengthening of organizational and technical capacities of the communities and their families, and the alternative practices promoted in favor of biodiversity conservation for the sustainable use of their livelihoods (Output 4.2.3).

The Project's ToC diagram summarizes how the factors of change throughout the process are related to the assumptions associated with inter-institutional readiness for effective IAS management, with good inter-ministerial cooperation and that of all stakeholders, as well as the political will to carry out the necessary reforms and sufficient budget to leverage actions that support IAS management. In order to achieve the objective of protecting globally important biodiversity and the ecosystem services they provide, intervention strategies (Components) were formulated to improve the management of prevention, detection and control of aquatic invasive alien species in priority protected areas in Venezuela. This will allow overcoming the problem of limitations in the implementation of Strategic Line 5 of the ENCDB's National Action Plan, having as an impact the protection of 6,847,720.43 ha of coastal marine ecosystems, which include the four (04) key MCPAs invaded by IAS. The Venezuelan Biodiversity Information System (SIDBVEN) will be updated and reactivated, with a module on aquatic IAS; likewise, the country will put into operation the National Aquatic IAS Surveillance and Control System (SINVCEEIa) that strengthens the control of aquatic IAS in the different national entry routes and a protocol will be designed for the control of the invasive exotic species U. stolonifera in favor of the conservation of the biodiversity present in the Venezuelan reef ecosystem. As co-benefits of this project, the restoration of the loss of biodiversity of the country's coastal marine ecosystem is promoted, the dispersion of the *U. stolonifera* species to other Caribbean countries is avoided by applying control strategies validated in our territory and the local communities of the four (04) key APMCs will directly benefit, with a population of approximately 19,000 inhabitants, implementing sustainable production alternatives with a gender equity approach.

Theory of change diagram (uploaded as Annex in the Portal)



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Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

Yes

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

Given that the country has been subject to Unilateral Coercive Measures, which affect the actions of public institutions and generates risk of currency fluctuations, the agency has been requested by the OFP, as documented in annexed letter, to provide fiduciary support by managing resources, disbursing only when required by MINEC as Executing Entity, responsible for the achievement of project results and the proper use of resources. Disbursements will be made in line with plans and budgets validated by the project steering committee.

In Venezuela, several initiatives have been implemented to improve the conservation, sustainable use, and restoration of natural ecosystems, which have been significant for the country in protecting ecosystems. Lessons learned from other completed GEF projects described in section A (GEF ID 3865 and GEF ID 3609) will be considered in the implementation of this project. Regarding ongoing initiatives, lessons learned from the "Sustainable Forest Management and Forest Conservation in Ecosocial Perspective" Project (GEF ID 5410), which is implemented by FAO, will be taken into account to improve sustainable forest management, from which references will be taken on practices with respect to participatory governance, community empowerment and innovations in information management.

In collaboration with the GEF Small Grants Programme (SGP), with UNDP support, lessons learned will be taken from a recent project called "Conservation of the malacho fish (Albula vulpes) for sustainable use, in the community “Guarida del sol”, in the state of Nueva Esparta, which undertakes actions to strengthen the capacities of young people in the fishing community, to give added value to the products of small-scale fisheries carried out by them or their parents, in the use of social technologies to learn the importance of social networks in the promotion and sale of the product and to empower themselves organizationally, to generate secure and sustainable livelihoods for their family group.

The project will coordinate with MINCYT, which will contribute to the project with the experiences and results of recent research on invasive coral and other general information on its behavior in the Mochima National Park area.

The project will cooperate closely with MINTUR, MINPESCA and MINMUJER to learn about activities related to ecotourism, fishermen's councils, fishing management experiences and the cultivation of marine species, as well as the linkage with gender-focused programs in the country.

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
155147	0	0	0

Indicator 1.1 Terrestrial Protected Areas Newly created

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
155147	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Henri Pittier	323	National Park	99,199.00						
Mochima	324	National Park	17,288.00						
San Esteban	10767	National Park	38,660.00						

Indicator 2 Marine protected areas created or under improved management

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
119576	0	0	0

Indicator 2.1 Marine Protected Areas Newly created

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
0	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Indicator 2.2 Marine Protected Areas Under improved management effectiveness

Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
119576	0	0	0

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
Henti Pittier	323	National Park	8,242.00						
Mochima	324	National Park	77,481.00						
Morrocoy	2247	National Park	28,789.00						

San Esteban	10767	National Park	5,064.00						

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	9,553			
Male	9,447			
Total	**19,000**	**0**	0	**0**

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

The project will be implemented in four key CMPAs (Morrocoy, Mochima, San Esteban and Henri Pittier National Parks), which comprises a total of 274,723 ha (155,147 ha terrestrial and 119,576 ha marine). Management protocols, control and surveillance mechanisms derived from the pilot areas will also be incorporated into the governing instruments of all the country's marine and coastal protected areas, which will allow the improvement in management to be scaled up to 6,847,720.43 hectares.

In addition, technical capacities will be developed in government institutions, local communities and other stakeholders involved in the project. It also seeks to improve the effectiveness of control measures, sustainable livelihoods and work with a gender equity approach, which ensures equal access to the benefits of the project. According to the 2011 national census, the population of the four key APMCs is 77,859 inhabitants, of which 49.72% are women and 50.28% are men. However, the target population of the project is around 19,000 inhabitants (9,447 men, 9,553 women). This population will be incorporated into the activities related to the formation of the Network of Environmental Brigades for their performance in early warning plans, they will also receive training to participate in IAS removal activities, in the recovery of the reef ecosystem and in developing some of the sustainable socio-productive alternatives proposed, such as ecotourism activities, cultivation of native algae and the establishment of machinery to support the processing of fishery products.

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation-such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the “Project description” section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Moderate	In general, biological invasions are favored by environmental disturbances. The spread of IAS under this project is also presumably promoted by the increase of alterations in the activity of the reef ecosystem due to climate change. For

		this reason, this topic is included within the substantive activities developed by the Ministry of Popular Power for Eco-socialism (MINEC) through the National Climate Change Information System and the National Climate Crisis Observatory (ONCC), which promote the development of knowledge related to climate change, the co-responsible participation of diverse actors, the reduction of greenhouse gases, the adaptation to climate change and the monitoring of adverse effects. The project will be linked to these systems to strengthen strategies for prevention, early detection, surveillance and control of the dispersion of aquatic IAS or potential invaders, implemented in the different pathways of introduction (Result 2.1). In addition, capacities for early warning and control of aquatic IAS will be strengthened, as well as the active participation of the community in general in activities that support SINVCEEIa (Result 2.2). Likewise, environmental baselines will be drawn up for the four (04) key MCPAs.
Environment and Social	High	The APMCs in Venezuela are subject to significant anthropogenic activity related to tourism, overexploitation of marine resources, physical alteration and the oil industry, which, combined with the effects of climate change, increase the risk of introduction and spread of IAS. With the updating and adaptation of the Master Plan of the Coastal Marine Protected Areas System articulated with the management of aquatic IAS and the updating of the PORU of the four (04) key MCPAs, the identification of the areas with the greatest aptitude to develop

		sustainable productive activities, with the least impact, making efficient use of space and resources, which includes the active participation of the local community, the gender equity approach and creating environmental awareness in the population through communication programs, control and restoration of the reef system is promoted (Result 3.3). According to the results of the investigations conducted by local NGOs and preliminary data on the rapid growth, reproduction, and dispersal of the species, it can be estimated that the soft coral Unomia stolonifera has the potential to invade the nine tropical and one subtropical marine ecological regions of the Wider Caribbean in the coming years; covering up to the Gulf of Mexico, its adjacencies (Florida coasts , Bahamas Islands) and its area of influence (Bermuda Island), where the marine ecosystems and biodiversity of 12 countries and 35 territories or insular states would be seriously affected. In this situation, a regional joint effort from affected countries would be required and the lessons learned from the Venezuela project will be shared with other countries.
Political and Governance	Moderate	Changes in institutional authorities throughout the life of the project and limitations in the cooperation and coordination between the different public institutions in the management of IAS would lead to inefficiencies in the implementation of the project. Therefore, the creation of the Inter-sectoral Coordination Group on IAS (GCIEEI) (Output 1.1) will allow adequate coordination among government agencies for project

		progress in line with the country's priorities. All relevant agencies will participate in the project formulation stage, and government actions have been taken to address the issue of IAS introduction in an inter-institutional manner.
Macro-economic	Substantial	The risk of the Venezuelan economy is its dependence, to a large extent, on oil production and, in turn, on the price per barrel in international markets. By 2022, the national economy has improved after approximately 10 years of economic emergency, so the national entity in charge of the budget allocation required for the recurrent actions of the ministries and public institutions involved in the project will channel the required contribution to those activities that potentially contribute to strengthen the control and supervision actions addressed by the project (Result 1.2).
Strategies and Policies	Moderate	The Office of the Attorney General of the Bolivarian Republic of Venezuela (PGR) is the entity that reviews the legal regulations of national scope designed by any agency of the country's executive branch, with which it must plan the availability of its personnel to review jointly with the ministerial Legal Consultancies the legal instruments that are developed within the framework of the project, for their final enactment. It is through the Inter-sectoral Coordination Group on IEEI (GCIEEI), which is formed within the framework of the project, that work will be done to keep the legal consultancies and the PGR informed of the importance of compliance with the country's commitments before the international

		bodies to which Venezuela is a party and that the actions related to the legal regulations and their updates require agility and timely decision making (Result 1.1).
Technical design of project or program	Moderate	The control of U. stolonifera is experimental and therefore a removal is proposed as a pilot experience. The strategies for the containment of this IAS will be carried out with mechanical and biological controls adapted in the country. This will require the incorporation of specialists from the national science and research sector, as well as international cooperation, to reinforce the pillars of this methodology (Result 3.1).
Institutional capacity for implementation and sustainability	Moderate	Limitations in the human, financial and technical resource capacity of MINEC and other public agencies involved, condition the implementation of project activities. The government is committed to allocate human resources from the relevant public agencies to ensure the successful implementation of project activities and future sustainability (Outcome 1.2 and 2.1).
Fiduciary: Financial Management and Procurement	Moderate	There is a significant fluctuation of the local currency. To mitigate this risk, the country normally requests FAO to manage the resources (fiduciary support); on the other hand, the procurement of materials required by the project is done on the international market. The agency will provide support by managing resources, disbursing only when required by MINEC as Executing Entity, responsible for the achievement of project results and the proper use of resources. Disbursements will be made in line with the plans and budgets validated

		by the project steering committee, and it is estimated that the inputs required by the project can be acquired from national suppliers.
Stakeholder Engagement	Moderate	Local communities perceive that access to their livelihoods and areas that they have always freely occupied may be hindered by the development of the pilot experience in the selected sites within the four (04) key MCPAs. Therefore, livelihood assessments will be conducted and associated impacts will be taken into account, in full consultation with the communities. Training programs will be generated so that all members of the community can participate in the control of aquatic IAS or in the restoration of the reef ecosystem, having the appropriate information available. Agreements are also established between the government sector and other stakeholders in the private sector that work in favor of supporting activities related to biodiversity conservation.
Other		
Financial Risks for NGI projects		
Overall Risk Rating	Moderate	

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

The project is aligned with Objective 1 of the Biodiversity Focal Area of the GEF-8 programmatic guidelines, mainly related to the Prevention, Control and Management of Invasive Alien Species, since it will strengthen Venezuela's national IAS monitoring and control system, with emphasis on aquatic IAS. It will also contribute to improving the management effectiveness of Venezuela's system of marine and coastal protected areas, and will work with local communities to promote the sustainable use of biodiversity.

The project is also consistent with national priorities and plans, framed in the Simón Bolívar National Project, which considers the commitments acquired by the country within the framework of the CBD, ratified by Venezuela on September 13, 1994, and to which it has made six regular reports, the last one in June 2019. The national biodiversity targets were adopted in the commitment of the Strategic Plan for Biological Diversity 2011-2020 and the Aichi Targets, which were embodied in the ENCDB 2010-2020 and its National Action Plan, which contains the strategic guidelines of the alternative development model proposed in the country, which is aimed at promoting the new ecosocialist ethic through the conservation and sustainable use of Biological Diversity. Under this scenario, to address the threats posed by the introduction of IAS into the country, the project is designed to implement "Strategic Line 5 of the National Action Plan of the National Biodiversity Conservation Strategy (ENCDB 2010-2020)", which establishes a multidisciplinary and integrated approach to IAS management. Therefore, technical and institutional capacities and national regulations for the detection, prevention and control of IAS in Venezuela will be strengthened, incorporating the other competent institutions within the National System for the Surveillance and Control of Aquatic IAS (SINVCEEIa), coordinated by MINEC.

It should be noted that the country began the process of adapting and updating the National Strategy for the Conservation of Biological Diversity 2021-2030 (ENCDB), which will henceforth take into consideration the contents of the Post-2020 Global Framework for Biodiversity, the Kunming-Montreal Global Biodiversity Framework (GBF), approved on December 19, 2022 at the UN Conference on Biological Diversity *(*COP15*).* This Agreement will guide global actions on biodiversity until 2030, being the Goals that involve this Agreement and to which this Project will be linked the following: Target 2: Degraded Ecosystems, Target 3: Protected Areas, Target 6: Eliminate, minimize, reduce or mitigate the impacts of IAS; Target 20: Capacity Building, Target 21: Access to Knowledge and Target 23: Gender Equity.

Likewise, the implementation of project activities will be guided by the Ecosystem Approach to Fisheries (EAF) and compliance with the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines, 2015), which promote a human rights-based approach to poverty eradication, highlighting the promotion of non-discriminatory participation of small-scale fishing communities, in transparent and accountable decision-making processes, to ensure the right to adequate food and equitable socioeconomic development of fishers and fishing communities, especially in the management, conservation and development of small-scale fisheries, which is aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda.

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

Project Title: Strengthening management to combat threats from Invasive Alien Species in Venezuela: piloting community-based control schemes for *Unomia stolonifera* species for the conservation of the reef ecosystem, its biodiversity and the sustainability of fishing communities' livelihoods.

Stakeholders	
Public Sector	
Organization	**Date of Consultation**
Ministry of People's Power for Eco-socialism (MINEC),	ago-22
Ministry of the People's Power for Productive Agriculture and Lands (MPPAPT)	ago-22
National Institute of Integral Agricultural Health (INSAI)	ago-22
Ministry of People's Power for Fishing and Aquaculture (MINPESCA)	oct-22
National Center for Fisheries and Aquaculture Research (CENIPA)	oct-22
Fisherwomen's, Fish Farmers' and Aquaculturists' Councils	sep-22
Ministry of People's Power of Transportation (MinT)	oct-22
National Institute of Aquatic Spaces (INEA)	oct-22
Ministry of People's Power of Science and Technology (Mincyt) Ministry of People's Power of Science and Technology (Mincyt),	ago-22
Institute for Advanced Studies (IDEA)	ago-22
Ministry of the People's Power of Higher Education (MinES)	ago-22
Orient University - Oceanographic Institute of Venezuela (IOV)	ago-22
Simón Bolívar University (USB)	ago-22
Venezuela Central University (UCV)- Zoology and Tropical Ecology Institute (IZET)	ago-22
National Parks Institute (Inparques)	sep-22
Ministry of People's Power of Education (Minedu)	ago-22
Foundation for Environmental Education (Fundambiente)	ago-22
Integrated National Customs and Tax Administration Service (Seniat)	ago-22
Ministry of the People's Power for Women	ago-22

Ministry of People's Power for Tourism	ago-22
Ministry of People's Power for Communes and Social Movements	ago-22
Ministry of People's Power of Defense	ago-22
Sucre State Government	jul-22
Mayor of Sucre Municipality	jul-22
Anzoategui State Government	jul-22
Mayor of Urbaneja Municipality	jul-22
Mayor of Sotillo Municipality	jul-22
Mayor of Guanta Municipality	jul-22
Frente Nacional de Pescadores (as), Acuicultores (as) and Actividades Relacionados "Simón Bolivar" (FNPASB)	mar-23

Private Sector	
Organization	**Date of Consultation**
Chamber of Commerce of Sucre State	jul-22
Chamber of Commerce of Anzoategui State	jul-22
Chamber of Turism and Commerce of Mochima	jul-22
La Salle Foundation	sep-22
La Tortuga Foundation (Unomia Project)	sep-22
Pilares Marinos Foundation	sep-22
Manta Divers Scuba Center	sep-22
Sea Foundation(Fundemar)	dic-22
Biorma Aquaculture C.A	dic-22
Sea Museum Foundation	jul-22

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE

High or Substantial

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant($)	Agency Fee($)	Total GEF Financing ($)
FAO	GET	Venezuela	Biodiversity	BD STAR Allocation: BD-1	Grant	6,000,000.00	570,000.00	6,570,000.00
Total GEF Resources ($)						**6,000,000.00**	**570,000.00**	**6,570,000.00**

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount ($)

150000

PPG Agency Fee ($)

14250

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG($)	Agency Fee($)	Total PPG Funding($)
FAO	GET	Venezuela	Biodiversity	BD STAR Allocation: BD-1	Grant	150,000.00	14,250.00	164,250.00
Total PPG Amount ($)						**150,000.00**	**14,250.00**	**164,250.00**

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total($)
FAO	GET	Venezuela	Biodiversity	BD STAR Allocation	6,734,250.00
Total GEF Resources					**6,734,250.00**

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing($)	Co-financing($)
BD-1-5	GET	6,000,000.00	35940000
Total Project Cost		**6,000,000.00**	**35,940,000.00**

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of People's Power for Eco-socialism (MINEC)	In-kind	Recurrent expenditures	5940000
Recipient Country Government	Ministry of People's Power for Eco-socialism (MINEC)	Public Investment	Investment mobilized	2000000
Recipient Country Government	National Parks Institute (INPARQUES)	Public Investment	Investment mobilized	4000000
Recipient Country Government	Ministry of People's Power of Agriculture and Lands (MPPAT)	In-kind	Recurrent expenditures	4000000
Recipient Country Government	Ministry of People's Power of Fishing and Aquaculture (MINPESCA)	In-kind	Recurrent expenditures	4000000
Recipient Country Government	Ministry of the People's Power for Transportation National Institute of Aquatic Spaces (INEA)	In-kind	Recurrent expenditures	4000000
Recipient Country Government	Ministry of People's Power of Science and Technology	In-kind	Recurrent expenditures	3000000
Recipient Country Government	Ministry of Defense (Mindefense)	In-kind	Recurrent expenditures	2000000

Recipient Country Government	Ministry of People's Power for Tourism (MINTUR)	In-kind	Recurrent expenditures	2000000
Recipient Country Government	Ministry of the People's Power for Women (MINMUJER)	In-kind	Recurrent expenditures	1000000
Recipient Country Government	Ministry of Higher Education (MinEducS)	In-kind	Recurrent expenditures	500000
Recipient Country Government	Ministry of Education (MinEduc)	In-kind	Recurrent expenditures	500000
Recipient Country Government	Environmental Services for Ecosocialism (SAEC)	Public Investment	Investment mobilized	3000000
Total Co-financing				**35,940,000.00**

Describe how any "Investment Mobilized" was identified

The investment mobilized from MINEC and its attached entity INPARQUES corresponds to the public resources destined to the operation of the four protected areas that will be piloted in the project. SAEC is also an entity attached to MINEC, in charge of resources obtained from environmental permits and authorizations that will also channel resources as contribution to project activities, to be further defined during project formulation.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

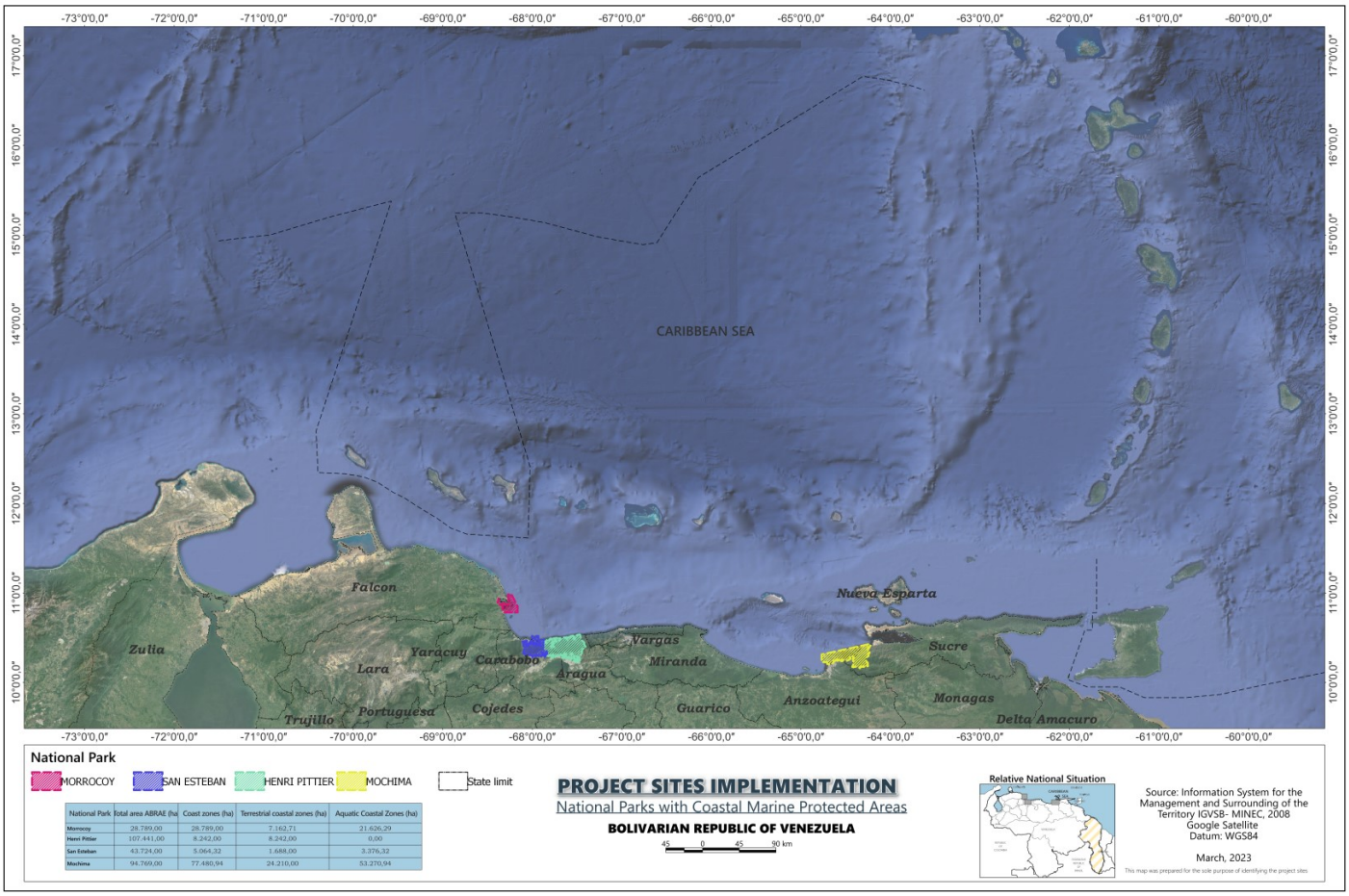
GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Jeffrey Griffin		Lorenzo Campos	56947480025	lorenzo.camposaguirre@fao.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

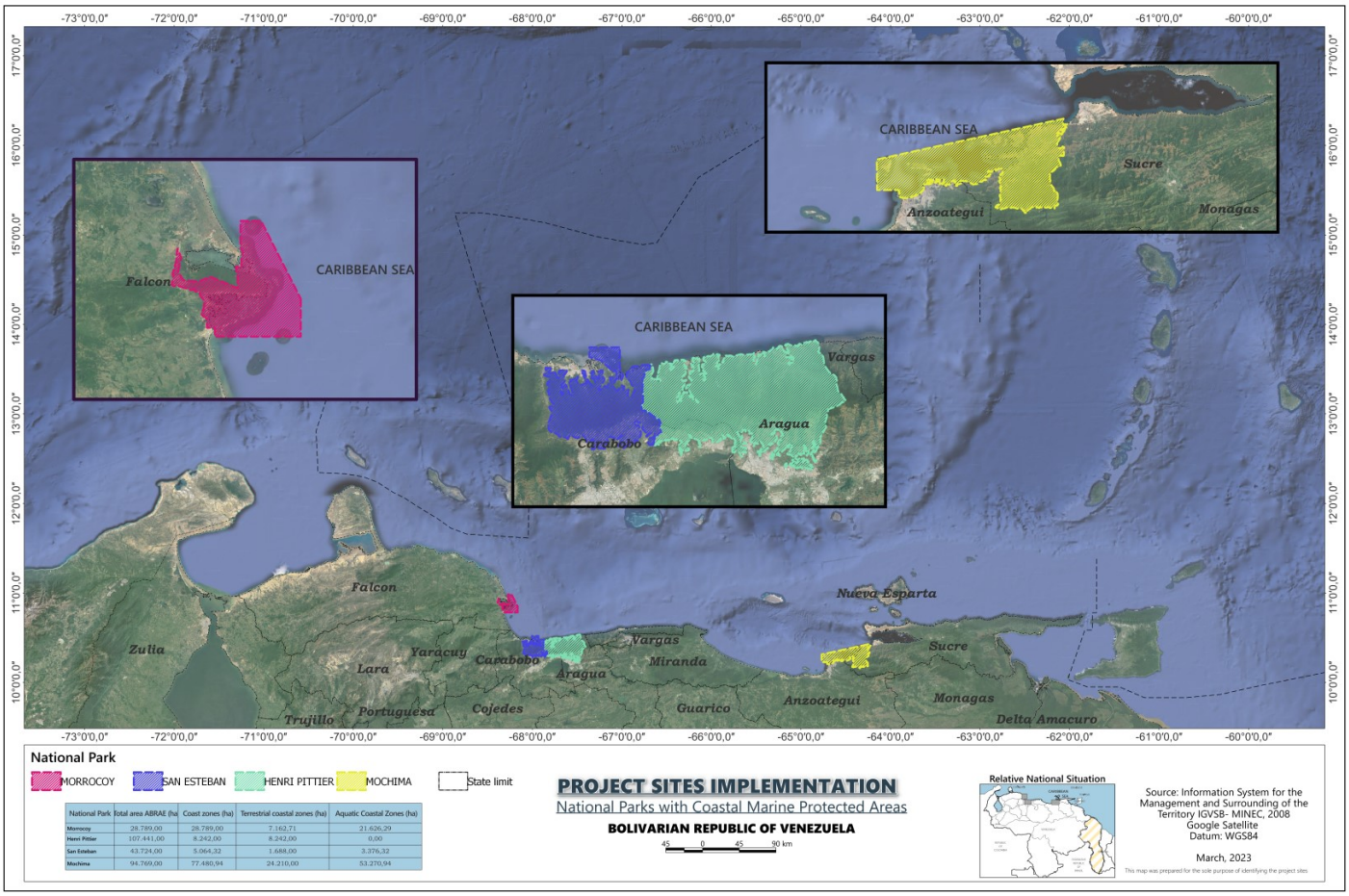
Name	Position	Ministry	Date (MM/DD/YYYY)
Miguel Alberto Serrano Orta	Director of Integration and International Affairs and GEF Operational Focal Point for the Bolivarian Republic of Venezuela	Ministry of Popular Power for Ecosocialism	

ANNEX C: PROJECT LOCATION

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



National Park	Total area ABRAE (ha)	Coast zones (ha)	Terrestrial coastal zones (ha)	Aquatic Coastal Zones (ha)
Morrocoy	28.789,00	28.789,00	7.162,71	21.626,29
Henri Pittier	107.441,00	8.242,00	8.242,00	0,00
San Esteban	43.724,00	5.064,32	1.688,00	3.376,32
Mochima	94.769,00	77.480,94	24.210,00	53.270,94



Source: Base map provided by MINEC (2008). The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers.

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title
PIF Venezuela IAS Climate Risk Screening
PIF Venezuela IAS _ Risk Certification
PIF Venezuela IAS _ ESS analysis

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
No Contribution 0	No Contribution 0	Principal Objective 2	No Contribution 0

ANNEX F: TAXONOMY WORKSHEET

Level 1	Level 2	Level 3	Level 4
Influencing models			
	Strengthen institutional capacity and decision-making		
	Demonstrate innovative approaches		
Stakeholders			
	Private Sector		
		Large corporations	
		Individuals/Entrepreneurs	
	Beneficiaries		
	Local Communities		
	Civil Society		
		Community Based Organization	
		Non-Governmental Organization	
		Academia	
	Type of Engagement		
		Information Dissemination	
		Consultation	
		Participation	
	Communications		
		Awareness Raising	
		Education	
		Public Campaigns	
		Behavior Change	
Capacity, Knowledge and Research			
	Capacity Development		
	Knowledge Generation and Exchange		
	Targeted Research		
	Learning		
		Theory of Change	
	Innovation		
	Knowledge and Learning		
		Knowledge Management	
		Innovation	
		Capacity Development	
		Learning	
	Stakeholder Engagement Plan		
Gender Equality			
	Gender Mainstreaming		
		Beneficiaries	
		Women groups	
		Sex-disaggregated indicators	
		Gender-sensitive indicators	
	Gender results areas		
		Participation and leadership	
		Access to benefits and services	
		Capacity development	
		Awareness raising	
		Knowledge generation	

Focal Areas/Theme			
	Biodiversity		
		Protected Areas and Landscapes	
			Coastal and Marine Protected Areas
			Productive Landscapes
			Community Based Natural Resource Management
		Mainstreaming	
			Tourism
			Fisheries
		Species	
			Invasive Alien Species (IAS)
		Biomes	
			Coral Reefs
			Sea Grasses
		Climate Change Adaptation	
			Livelihoods