



PROJECT IDENTIFICATION FORM (PIF)¹

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	Implementing the Socio-Ecosystem Connectivity Approach to Conserve and Sustainable Use Biodiversity in the Caribbean Region of Colombia		
Country(ies):	Colombia	GEF Project ID: ²	5288
GEF Agency(ies):	FAO	GEF Agency Project ID:	621536
Other Executing Partner(s):	Ministry of Environment and Sustainable Development (MADS)	Submission Date:	March 27, 2013
GEF Focal Area (s):	Biodiversity	Project Duration (Months)	48 Months
Name of parent program (if applicable): ➤ For SFM/REDD+		Agency Fee (\$):	574,951

A. FOCAL AREA STRATEGY FRAMEWORK³:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
BD-1	1.1. Improved management effectiveness of existing and new protected areas.	1.1. New protected areas (6) and coverage of unprotected ecosystems.	GEFTF	3,170,155	10,670,183
BD-2	2.1 Increased in sustainably managed landscapes and seascapes that integrate biodiversity conservation.	2.2. National and sub-national land-use plans (5) that incorporate biodiversity and ecosystem valuation services.	GEFTF	1,786,815	6,014,103
BD-2	2.2. Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.	2.1. Policy and regulatory frameworks (4) for production sectors.	GEFTF	806,949	2,716,047
Sub-Total				5,763,918	19,400,333
Project Management Cost ⁴				288,196	970,017
Total Project Cost				6,052,114	20,370,350

B. PROJECT FRAMEWORK

Project Objective: To reduce the degradation and fragmentation of strategic ecosystems in the Caribbean Region of Colombia (CRC) by implementing a strategy of socio-ecosystem connectivities that include inter-institutional articulation, territorial planning, social participation with an intercultural vision, good management of existing protected areas (PAs), creation of new PAs and the promotion of sustainable production models.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-Financing (\$)
1. Strengthening institutional	TA	1.1 The concept of Socio-Ecosystem	1.1.1 Strategic Environmental Assessment (SEA) is applied to	GEFTF	1,440,980	4,850,08

¹ It is very important to consult the PIF preparation guidelines when completing this template.

² Project ID number will be assigned by GEFSEC.

³ Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.

⁴ GEF will finance management cost that is solely linked to GEF financing of the project. PMC should be charged proportionately to focal areas based on focal area project grant amount.

<p>coordination and mainstreaming the socio-ecosystem approach in land-use planning, to reduce the degradation and fragmentation of strategic ecosystems in the Caribbean Region of Colombia (CRC).</p>		<p>Connectivity (SEC) has been mainstreamed into policy instruments (land-use plans and regional planning), improving the management and conservation of locally and globally significant biodiversity in 5 departments (Bolívar, Sucre, Córdoba, Antioquia, and Chocó) in the West and insular areas of the CRC</p> <p>1.2 Environmental authorities and key actors in the CRC</p>	<p>plans and programs of territorial rural development in the CRC, using the socio-ecosystem and gender approaches.</p> <p>1.1.2. A portfolio with multi-criteria valuation of six (6) ecosystem services covering all <i>connectivity zones</i> defined by the SIRAP⁵-Caribbean⁶, to enable connectivities among fragmented landscapes (swamps, wetlands, forests and coastal marine ecosystems).</p> <p>1.1.3 A Regional Strategy of Socio-Ecosystem Connectivities (SEC) in the CRC, built with participatory and gender approaches (10 high-level regional forums, 3 public forums, 15 civil society organizations, 10 ethnic groups, and 8 production sectors) for re-integrating fragmented ecosystems.</p> <p>1.1.4 The Strategy (see output 1.1.3) incorporated in 5 Departmental Development Plans, 10 Land Use Schemes or Plans, 2 Land Use and Watershed Management Plans (rivers <i>Atrato</i> and <i>Simú</i>), 13 Action Plans of Environmental Authorities, and the Action Plan of SIRAP Caribbean.</p> <p>1.1.5 A knowledge-sharing platform (for education, communication and socio-cultural exchange) that support the SEC Regional Strategy (including 12 virtual dialogues, 12 programs in regional TV, 52 advertisements in commercial and communitarian radios, a didactic toolbox adapted for different educational levels and implemented in at least 100 educational establishments).</p>			
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⁵ The System of Protected Areas (SIRAP by its Spanish initials), is the "set of protected areas, public or private in their different management categories, related with specific conservation objectives that are in a particular region of the country" (Source: <http://www.sirapcaribe.org>)

⁶ The Regional System of Protected Areas -Caribbean (SIRAP Caribbean, by its initials in Spanish) covers from Guajira to the department of Choco, considering the jurisdictions of the 16 environmental authorities of the CRC. Its goal is to support the sustainable development of the CRC while preserving its genetic capacity, resources and ecosystems (providers of many goods and services), and ensuring the survival of cultures and the heritage for future generations (Source: <http://www.sirapcaribe.org>).

		departments have 3 decision-making tools for orientating the SEC Regional Strategy towards the recovery of ecological structure.	<p>1.2.1 One Inter-Sectorial Information and M&E system for the implementation of the SEC Regional Strategy that identify achievements and barriers and provide strategic guidance (through 8 semester newsletters), in coordination with the information systems of the environmental agencies.</p> <p>1.2.2 Sixty (60) public officers (16 environmental agencies, 5 departmental governments, and SIRAP Caribbean) have developed capacities for managing and implementing the SEC Regional Strategy through one training program that include the active participation of women (one online course, and 3 presence workshops).</p> <p>1.2.3 One monitoring program for three flagship species: marine, terrestrial and birds (Jaguar, <i>Meros-Chernas</i> and migratory bird) as indicators for the state of connectivities.</p>			
2. Creating new protected areas (PAs) and improving the effectiveness of existing PAs in the CRC.	INV	<p>2.1 Coastal marine ecosystems (mangroves, seagrass and reefs), rainforests, wetlands and swampy complexes have achieved improved status of management and conservation.</p> <p>2.2 Improved management effectiveness of 5 PAs in the frame of the sub-systems of Protected Areas (SIRAP Caribbean SILAP⁷ and SAMP⁸).</p>	<p>2.1.1. Six (6) new PAs (addressing identified conservation gaps) created and their management plans prepared (3 PAs⁹ and 3 civil society nature reserves -CSNRs). Connectivity corridor of 10,000 hectares in forest, swampy and marine-coastal ecosystems established.</p> <p>2.2.1 One Regional Information System of the PAs and conservation mosaics located in the western area of the CRC, including a database, a monitoring system, and periodic measurement of: i) the rate of transformation of strategic ecosystems, ii) the level of deterioration of the ecological</p>	GEFTF	1,844,454	6,208,107

⁷ The Local System of Protected Areas (SILAP, by its initials in Spanish) is the set of spaces with unique values for the ecological heritage of the municipality, the region or the nation. The system is essential for the conservation of biodiversity and the evolution of cultures in the towns, which for the benefit of all the inhabitants is reserved and is declared within any category of protected area designations that can be applied according to local law and regulations (SIRAP, Regional System of Protected Areas, 2005).

⁸ Subsystem of Marine Protected Areas, SAMP, by its initials in Spanish.

⁹ Go to description in section B.2.

			<p>structure, iii) the level of habitat fragmentation, iv) loss of connectivity between different landscape units in the areas of project intervention.</p> <p>2.2.2 Updated management plans for 4 existing PAs, integrating socio-ecosystem connectivities¹⁰: 3 national PAs (NNP¹¹ Corales del Rosario and San Bernardo, NNP Paramillo, and NNP Katios. Total area: 551,500 has), and 1 Regional PA (Sinú Delta).</p> <p>2.2.3 Analysis Tool of PA Management Effectiveness with Social Participation (AEMAPPS¹²) applied in 4 PAs, covering at least 551,500 hectares.</p> <p>2.2.4 Results-Based Management Assessment with SEC approach, applied in 1 Regional Sub-system of PAs (SIRAP Caribbean), and 1 Thematic Sub-system (Sub-system of Marine Protected Areas - SAMP).</p>			
3. Alternative models of sustainable production and strategies to ensure the supply of local and global ecosystem services.	INV	3.1 200,000 hectares (land) and 100,000 hectares (marine) have effectively contributed to the socio-ecosystem connectivity in the CRC, through the development of 3 mosaics of conservation and	<p>3.1.1 Three agreements signed for the creation of mosaics involving 10 municipalities, 4 environmental agencies, at least 10 landowners and 3 producers' organizations.</p> <p>3.1.2 Restoration of riparian forests in buffer zones, protected streams and canals in the Sinu River basin (100 lineal km¹³), and their inclusion in the mosaics</p>	GEFTF	2,420,846	8,148,140

¹⁰ Including considerations for buffer zones and production landscapes.

¹¹ National Natural Park

¹² This tool was created in Colombia by the former Special Administrative Unit of National Parks (UAESPNN, by its initials in Spanish), under the Ministry of Environment and Sustainable Development, in coordination with WWF. National Parks of Colombia was created to centralize responsibility of the PNN System, to ensure their protection, to stop the processes of deterioration in some of them, and to promote regulations and programs among tourism authorities in special management areas (Source: FAO, the State of the Forest Information in Colombia, Santiago de Chile, 2002 - Project GCP/RLA/133/EC). UAESPNN developed actions with FAO in the framework of the Latin American Technical Cooperation Network on National Parks, other Protected Areas and Wildlife (REDPARQUES), and socio-ecosystem connectivity activities, specifically in the *Montes de Maria* (Maria Mountains) – NNP Corales of Rosario and St. Bernard, as a contribution to the recovery of the ecological structure.

¹³ It is referred to 100 lineal km in riparian buffer zones, which is the best translation of the Spanish term “*km lineales de rondas hidricas*”. The Colombian legal framework defines the *ronda hidrica* as “*ecological reserve(s) not buildable of public use, consisting of a strip parallel to both sides of the borderline of the permanent stream of rivers, reservoirs, ponds, and channels, up to 30 meters wide, which include(s) the areas flooded by non-ordinary river growing, and the areas necessary for river rectification, cushioning, protection and ecological balance. In accordance with the provisions of Decree Law 2811/1974, the riparian buffer zones must not be used for other functions than the described ones*”.

		sustainable use of natural resources, under the approaches of conservation of biodiversity in terrestrial and coastal- marine production landscapes	<p>arrangements (see 3.1.1).</p> <p>3.1.3 Design and implementation of sustainable production plans (SPP) with new or existing certification schemes, in 3 CSNRs and private lands (at least 1200 ha). The SPPs include: a) natural resources maps for sustainable agricultural use and planning; b) Restoration corridors of sustainable forestry; c) Measures to mitigate adverse environmental impacts on local biodiversity.</p> <p>3.1.4 Set of six local networks (150 female and male beekeepers, fish folks, rural producers of vegetables, fruit and ecotourism) that incorporate the SEC approach in their production schemes (at least 1,000 hectares of the mosaic).</p> <p>3.1.5 The SPPs (see 3.1.3) have been incorporated into the management plans of (at least) 2 new regional PAs (see 2.1.1) created by the project, with socio-ecosystem approach.</p>			
4 Project progress monitoring and evaluation and information dissemination	TA	4.1 Project implementation based on results based management and application of project findings and lessons learned in future operations facilitated .	<p>4.1.1 Project monitoring system operating providing systematic information on progress in meeting project outcome and output targets</p> <p>4.1.2 Midterm and final evaluation conducted and project implementation and sustainability strategy adjusted to recommendations</p>	GEFTF	57,638	194,003
Sub-total					5,763,918	19,400,333
Project Management Cost					288,196	970,017
Total Project Costs					6,052,114	20,370,350

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	National Natural Parks	Grant	1,042,333
		In-Kind	401,263
Local Government	Regional Autonomous Corporation of the Valles del Sinu and San Jorge (CVS)	Grant	1,021,110
		In-Kind	502,598
Local Government	Autonomous Corporation of Urabá (CORPOURABA)	Grant	1,005,000
		In-Kind	1,000,000
Local Government	Regional Autonomous Corporation for the Sustainable Development of Chocó (CODECHOCO)	Grant	450,000
		In-Kind	850,000
Local Government	Autonomous Corporation of Canal del Dique	Grant	500,050

	(CARDIQUE)	In-Kind	589,321
Local Government	Regional Autonomous Corporation of Sucre (CARSUCRE)	Grant	525,288
		In kind.	300,000
Local Government	General System of Royalties (local level)	Grant	370,714
Local Government	Departmental Government of Cordoba	Grant	456,000
		In-Kind	225,633
Local Government	Departmental Government of Sucre	Grant	456,000
		In-Kind	125,633
Local Government	Departmental Government of Bolivar	Grant	456,000
		In-Kind	225,633
Local Government	Departmental Government of Chocó	Grant	356,000
		In kind	125,633
ONGs	Colombia en Hechos (CenH), and others	Grant	300,000
		In kind	1,100,000
GEF Agency	FAO	Grant	100,000
		In kind	280,000
National Government	Ministry of Environment and Sustainable Development (MADS) - General System of Royalties (national level)	Grant	1,250,000
		In kind	6,356,141
Total Cofinancing			20,370,350

D. GEF/LDCF/SCCF/NPIF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b) ²	Total c=a+b
FAO	GEFTF	Biodiversity	Colombia	6,052,114	574,951	6,627,065
Total Grant Resources				6,052,114	574,951	6,627,065

E. PROJECT PREPARATION GRANT (PPG)

	<u>Amount Requested (\$)</u>	<u>Agency Fee for PPG (\$)</u>
<ul style="list-style-type: none"> • No PPG required • (Upto) \$50k for projects up to & including \$ 1 million • (Upto) \$100k for projects up to & including \$ 3 million • (Upto) \$150k for projects up to & including \$ 6 million • (Upto) \$200k for projects up to & including \$ 10 million • (Upto) \$300k for projects above \$ 10 million 	100,000	9,500

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1 The GEF focal area/LDCF/SCCF strategies:

The proposed project is consistent with the focal area objectives BD-1 and BD-2. Component 1 aims at achieving the expected outcome BD-2.2. Component 1 will support the mainstreaming of the concept of Socio-Ecosystem Connectivity (SEC) (see its definition in Section B.2 below) into policy instruments (land use plans and regional planning), reducing the fragmentation and improving the management and conservation of globally significant

biodiversity in buffer zones between protected areas (defined as *mosaics*) located in five departments of the Western Caribbean Region of Colombia (CRC). Component 1 will also address the development of 3 decision-making tools for orientating the SEC Regional Strategy towards the recovery of ecological structures. These 3 tools will be: a) one Inter-Sectorial Information and M&E system, for the implementation of the SEC Regional Strategy, articulated with the information systems of the local/national environmental agencies (see output 1.2.1, Table B); b) one training program for public officers for managing and implementing the SEC Regional Strategy (see output 1.2.2, Table B); and c) one monitoring program for three flagship species, as indicators for the state of the connectivities (see output 1.2.3, Table B).

Component 2 will support the outcome BD-1.1. Component 2 will support the achievement of improved status and conservation management for key coastal-marine ecosystems, rainforests, wetlands, a swampy complexes. In this line, Component 2 will promote the creation of 6 new PAs (that were identified as conversation gaps) and the design of their management plans. In addition, 10.000 hectares will be protected as a connectivity corridor (see output 2.1.1, Table B). Component 2 will also improve the governance of natural resources at sub-regional level, by creating one information system that will monitor the PAs and conservation mosaics located in the western area of the CRC (at present, lacking of an effective monitoring system) (see output 2.2.1, Table B). Lastly, Component 2 will support the improved management effectiveness of 4 existing PAs in the frame of the sub-systems of protected areas at regional and local level (SIRAP Caribbean, SILAP, and SAMP) (see outcome 2.2, Table B).

Component 3 will be in line with the expected outcome BD-2.1. Component 3 will support the implementation of alternative models of sustainable production and strategies to ensure the supply of global ecosystem services in the CRC. In this line, Component 3 will promote the building of mosaics for the conservation and sustainable use of natural resources, covering 200,000 hectares (terrestrial ecosystems) and 100.0000 hectares (marine ecosystems) . The mosaics will contribute to strengthen the socio-ecosystem connectivity in the region under the approach of biodiversity conservation in terrestrial and coastal- marine production landscapes. Participatory agreements will be signed to create mosaics (see output 3.1.2, Table B); sustainable production plans (SPP) including new and/or existing certification schemes will be designed and implemented (see output 3.1.3, Table B); and riparian forests will be restored in buffer zones of the Sinu River Basin as a strategy for sustainable landscape management (see output 3.1.2, Table B). Component 3 will also address the expected outcome BD-1.1 since the implementation of SPPs will help improve the management of civil society natural reserves (CSNRs), which are protected areas in broad sense. The SPPs will also be incorporated into the management plans of at least two new regional PAs created by the project (output 3.1.5), with socio-ecosystem approach, contributing to the PA effective management.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

N/A.

A.2. National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

Colombia ratified the Convention on Biological Diversity (CBD) of the United Nations by resolution 165 of 1994. This proposed project is consistent with the following policies and national reports:

- The Fourth National Report to the Convention on Biological Diversity (CBD), submitted in 2010, which identified as priorities: i) the strategic management of national ecosystems (such as wetlands, deserts, mangroves, coral reefs, etc.); and ii) the progress in the integration of local and regional ecosystem approaches as a tool for environmental planning and management.
- The National Policy for Integrated Management of Biodiversity and Ecosystem Services (PNGIBSE) (2011): Mechanism by which Colombia complies with the mandate. of the CBD. It promotes a new way of addressing biodiversity in the country, oriented towards the integrated management of biodiversity and the ecosystem services it provides, The policy serves as the basis for inter-sectorial coordination of activities in land-use planning processes. For its development the following instruments are

- considered: training, education and outreach, public participation, institutional development, and establishment of information systems. Its latest update is based on the socio-ecosystem vision, the cornerstone of this project. The project is aligned to the following strategic directions: (ii) governance and creation of public value; (iii) economic development, competitiveness and quality of life; (iv) management of knowledge, technology and information; (v) co-responsibility and global commitments.
- The National Development Plan 2010-2014 "*Prosperity for All*" (Presidency of the Republic of Colombia), which aims to: i) design a strategy to integrate environmental considerations into private decision-making to locate production activities; ii) define and implement a national policy for the management of biodiversity and ecosystem services; iii) update and implement a national integrated policy for the development of ocean and coastal areas and islands of Colombia; iv) adopt and implement the National Plan of Restoration, Recovery and Rehabilitation of Ecosystems, including reforestation for protection purposes; v) consolidate the National System of Protected Areas (SINAP), giving priority to the increase of ecological representativeness, in particular in marine and coastal areas.
 - The National Act 99/93 (Art. 64 and 65) which states that national, regional, and sectorial implementation of environmental and renewable natural resources policies should be done in coordination with the involved departments and municipalities, including standards for control, preservation and protection of ecological heritage.
 - The National Environmental Policy for Sustainable Development of Oceans, Coastal Areas and Islands of Colombia (PNAOCI, for its name in Spanish), which has an environmental collective approach. Their actions and goals focus on the management, proper handling and recuperation of continental and marine ecosystems.
 - Document 3680 of the National Council of Economic and Social Policy (CONPES 3680), National Planning Department (DNP, for its name in Spanish), which establishes the policy guidelines for the consolidation of the National System of Protected Areas (SINAP), to contribute to biodiversity conservation as a natural basis for national development. Its objectives are also able to generate environmental benefits and preserve natural areas that are essential to the preservation of cultural diversity in Colombia.
 - The Decree 1996/99 of the Ministry of Environment that has denominated Civil Society Nature Reserve as "the part or all of a property that holds a sample of a natural ecosystem and is managed under the principles of sustainability in the use of natural resources".

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

The Caribbean Region of Colombia (CRC) consists of coastal and island areas that cover 13% of the national continental territory and 63% of the national maritime territory. The region has access to the Caribbean Basin and articulates with the Pacific Ocean using the Panama Canal.¹⁴

The Caribbean is one of the six geographic regions of Colombia. The CRC hosts 24 major ecosystems (or biomes) including: mangrove (*halohelobomas*), sweet and salty coastal lagoons, marshes, sub-xerophytic forest, coral reefs, seagrass meadows, flooded forests and swamps (*helobomas*), savannas (*peinobomas*), lowland dry forests (*zonobioma-alternohigrico* or *sub-tropical xerophytic*), desert formations (*zonobioma xerophytic*), lowland rain forests (tropical wet *zonobioma*), mountain-associated forest formations (*orobiomas* sub-Andean, Andean, high-Andean) and *paramos* (paramo orobioma). The rich natural environment of the CRC is organized in 3 Biosphere Reserves, 1 Ramsar Site, 5 Forest Reserves, 11 Natural National Parks, 18 regional protected areas (PAs) comprising approximately 1,378,000 hectares, municipal conservation areas and Civil Society Nature Reserves (CSNRs). All these areas provide ecosystem services such as water supply, nutrient flows to marine ecosystems, coastal accretion and littoral protection from coastal erosion, carbon sequestration, oxygen production, water and climate regulation, wildlife refuge, food source for migratory birds, fish production, and sediment trap, among

¹⁴ National Development Plan 2010-2014

others.

Threats to biodiversity

Anthropogenic and natural pressures within protected areas and their buffer zones: the degradation of biodiversity in terrestrial and marine areas in the Western zone of the CRC

The natural resources of the CRC have been heavily exploited since pre-colonial times due to its topographical characteristics. The current faunal and plant composition of the CRC reflects the use and management decisions of the past. At present, the threat to biodiversity is still mainly of anthropic type. In the Western zone of the CRC, the development model¹⁵ has particularly focused on large-scale agricultural production¹⁶, the construction of road works, and the concession of mining and energy exploitations, resulting in the conversion and fragmentation of ecosystems (paramos, forests and wetlands), carrying negative externalities as uncontrolled deforestation, and the depredation of plant and animal species. The original habitat has been transformed into a vast intervened matrix made of homogeneous grasslands and monocultures, mainly in sedimentary plains, terraces and plains, covering most of the territory. Ecosystems in original condition have been changed almost entirely (over 90%) except in some preserved and isolated areas that are in constant danger of intervention¹⁷. The exploitation and utilization of natural resources generated economic growth, contributing to social welfare¹⁸, but it was also accompanied by a noticeable environmental degradation. As evidence of this, 85% of the production systems of the region are located in areas vulnerable to desertification¹⁹. The soil has lost its original cover and compaction, while erosion is rapidly moving towards desertification (CI 2008²⁰). Although national legislation prohibits the development of mining, forestry and agroforestry systems with commercial goals in ecologically important areas, often the delimitation of these areas and the zoning and management of national forest reserves have not been respected within the region. The Western zone of the CRC has been particularly affected by forest resources degradation due to the unsustainable practices of the timber industry that exploit, produce and transport native forests from the middle zone of the Magdalena River, passing through the departments of Choco, Antioquia, Cordoba and Sucre, to the harbor of Barranquilla (Atlantico department), which is the major export point of wood products in the country.

In 2009, the SIRAP Caribbean identified as significant threats to biodiversity in the region: the population density in the river headers (2005), the indicator of economic activity (2003), accessibility (through roads and rivers) (2007), the percentage of households using wood as material rough walls in homes (2005), illicit crops (2002), municipal areas with a predominance of grasses (2000), oil production and areas of technical assessment related to the oil industry (2007). Based on the identification of significant threats, SIRAP Caribbean defined the Index of State Conservation Targets (ISCT) through the use of the following metrics: range of fractal dimension index, range of the Euclidean distance to nearest fragment, and index of total border contrast. Table 1 shows the probability of critical condition for each eco-region. In the CRC, SIRAP Caribbean found that 88.89% of the eco-regions are in critical condition. Among the relevant eco-regions, it is observed that the Sinu Helobioma has a high ISCT (68.46%) (i.e. it is in critical condition) and its threat index is high (0.99), and its goal will reach a value high (78.96%).

Table 1. Index status, threats and conservation goals by eco-region, Western zone of the CRC

Eco-region	Conservation Target		
	State	Threat	Goal

¹⁵ The main potential for the formation of clusters found in agroindustry (oils and greases, fruits and vegetables, fish and fish products, meat), tourism, petrochemicals and plastics, design, construction and repair of ships, metallurgy, biofuels, and port activity logistics.

¹⁶ The region is the area of greatest agricultural potential of the country: 4.7 million hectares (46% of the national total), MADS, 2011

¹⁷ Wingarden-Fandiño-Lozano, 2006

¹⁸ DNP, 2007

¹⁹ MADS, 2011

²⁰ Conservation International, 2008.

	Status Index (ISCT)	Probability (Threat)	Goal	Goal Adjusted
Helobioma Atrato floodplain forest	7,07	0,04	6,12	10,00
Halohelobioma Sinu and Urabá marsh vegetation.	30,20	0,91	50,82	50,82
Zonobioma humid tropical of Sinu Urabá. Forest in the mountain	34,16	0,12	26,71	26,71
Halohelobioma Caribbean. Coastal Hidrofitia.	44,83	0,00	29,76	29,76
Pedobioma Sinu. Grasslands in hilly.	47,89	0,00	31,79	31,79
Halohelobioma Sinu and Urabá. Mangrove forest.	49,21	0,68	55,72	55,72
Zonobioma alternohigrico and/or tropical subxerofitico Sinu. Forest and shrubland in hill zones	55,76	0,94	68,74	68,74
Helobioma of Sinu. Marsh vegetation.	68,46	0,99	68,78	78,96
Zonobioma humid tropical of Sinu and Urabá. Forest in hill and piedmont zones.	76,70	0,54	69,05	69,05

Note: In red. Conservation targets in critical condition.

Source: SIRAP Caribbean - TNC, 2010

The marine and coastal areas in the Western and island zones of the CRC have also been severely deteriorated and are threatened by 4 main factors: overexploitation, sedimentation²¹, contamination and nutrient loading, and climate change. The sea level in this area of the Caribbean Sea has an average increase of 3.5 mm/year²². This increase of magnitude has resulted in a generalized setback of the Colombian coastline that is already causing erosion of beaches, cliffs and terraces, and loss of ecosystems. Increased sea temperatures, salinity variation, and marine PH changes are also affecting the marine and coastal biodiversity in the CRC. In the future, the region is expected to experience a thermal sensation change, from warm to very warm, that might cause physiological stress in living organisms, greater pressure on species already at their tolerance limits, and will possible affect the species composition, seasonality, and production in marine systems and fresh water. Drastic changes in salinity may result in imbalances in the dynamics of fish populations that support important fisheries, and may affect clams, oysters, snails, corals and seagrass beds. Coastal erosion is already affecting the national parks of the Western zone of the CRC, as the NNP Utría and NNP Corales del Rosario and San Bernardo (located in one major vulnerable zone).

Unsustainable practices and weak planning put pressure on and has affected the integrity of highly vulnerable ecosystems²³ (coral reefs, seagrass, mangroves, herbs, shrubs and coastal lagoons) and their species, altering food chains and favoring the establishment of invasive alien species. Such is the case of "lionfish", an Indo-Pacific species, that currently abounds in the Caribbean sea in the absence of its potential predator, the *Mero*.

Although key areas have been prioritized by their representativeness or risk situation, the lack of concrete actions is threatening biodiversity and ecosystems. The five departments in the Western zone of the CRC (continental area) show alarming signs of: i) lack of concrete conservation actions in 85% (620,801 ha) of the prioritized areas in the Northern departments Antioquia and Choco²⁴; ii) in the department of Córdoba, conservation and sustainable

²¹ The Magdalena River has the greatest amount of suspended sediment being transported to the Caribbean Sea (144 million tons per year). The discharges of this river heavily influence on the nutrient fluxes, biogeochemical cycles, morphodynamic stability, and dynamics of the coastal ecosystems. Numerous studies have highlighted the role of fluvial discharges over the morphodynamics of large areas in the Caribbean coast of Colombia (from the *Ciénaga Grande de Santa Marta* to the peninsula of Baru), and have related the variability of fluvial discharges with the adverse effects over highly sensitive ecosystems such as coral reefs and sea grasses (*Universidad del Norte*, 2012).

²² Measured by the tide gauge station of Cartagena, and reported in the Second National Communication on Climate Change (SCN), 2010.

²³ National Climate Change Strategy for the National Parks System of Colombia, UAESPNN, Technical Branch, 2011 - pg. 33.

²⁴ In these two departments, SIRAP identified 26 priority conservation sites (727,375 ha), that include 2 nationally declared PAs: the NNP Katíos and NNP Paramillo (total area: 106,574 ha.). The Corporation for the Sustainable Development of Urabá (Corpouraba) declared 4 regional PAs: the Natural Regional Park System of Mangrove in Atrato River Delta, the Integrated Management District (IMD) Rionegro Cove, the IMD *Alto de Insor*, and the Wetlands Protection and Forest Reserve Suriqui.

management actions have been applied in only 15% (104,494 ha.) of the total area of priority ²⁵; iii) in the department of Sucre, concrete conservation actions are missing in 97% (311,974 ha) of the prioritized areas ²⁶; and iv) in the department of Bolivar, concrete conservation and management actions are missing in 99.5% (1,211,690 ha) of the prioritized areas of the department²⁷.

Fragmentation between protected areas and buffer zones in the Western area of the CRC

Protected areas in the Western zones of the CRC are in a state of isolation, caused by high rates of transformation²⁸ of strategic ecosystems, the increasing deterioration of the ecological structure, and the fragmentation of habitats, which threatens the provision of ecosystem services in large areas of national and global environmental significance (wetlands, mangroves, coral reefs, among others) This deterioration is due to growing pressures on national and regional PAs and protection zones, as well as the absence of integral strategies for conservation and sustainable production. The majority of productive lands are used for unsustainable and extensive cattle ranching, impairing the agrological capacity of the CRC and damaging areas that surround PAs²⁹. The continuous intervention and occupation of lagoon areas is generating the loss of habitats and unique species in the marshes. These ecosystems are recipients of large rivers, which in turn are impaired (eg: Magdalena River) and affected by increasing emergencies, generating loss of vegetative cover and native biodiversity. Such decomposition of the ecological structure, and the reduction of ecosystem services being provided by the vegetative coverage (i.e.: regulation of water flows, marshes and wetlands, through the capture of excess water from the rivers) have caused significant socio-economic losses in the vulnerable population. For example, during the intense rainy season of 2010, dozens of settlements were flooded, 1,500,000 people were affected (in 2010-2011), and large tracts of land were submerged under water.

Fragmentation has created a critical situation for biodiversity. A recent study ³⁰ has shown that in the CRC there are: (i) Plants: 33 threatened and endemic species, 5 globally and 20 nationally, which most common family is palms (*Areceaceae*), (ii) Birds: 40 species (belonging to 23 families - the most representative are *Parulidae* and *Trochillidae*, *Psittacidae* and *Anatidae*, under great pressure in the CRC - and 35 genera), of which 26 are globally threatened, 32 are nationally threatened, and 15 are endemic in Colombia; (iii) *Amphibians*: 15 threatened species (9 genera and 7 families), 13 are globally threatened, 1 is nationally threatened, and 9 are endemic; (iv) Reptiles: 5 threatened species, 3 species are contained in the IUCN listings, and 2 are endemic and nationally threatened; (v) Mammals: 20 species (12 families and 16 genera), 8 are globally threatened, 2 are endemic to Colombia, and 19 are on the list of nationally threatened species - here primates are groups more nourished mainly *Atelidae* families (5 species) and *Aotidae* (3 species); (vi) Fish: 13 species (11 genera and 8 families), the totality of selected species are nationally threatened and 10 species are endemic to Colombia.

In the Western area of the CRC (continental zones), priority conservation areas threatened by fragmentation are: i)

²⁵The Cordoba department has 19 priority sites for conservation (700,553 ha), comprising 596,059 hectares that have been included in the NNP Paramillo, and in 3 PAs declared by the Regional Autonomous Corporation of the Valleys of the Sinu and San Jorge (IMD *Cispatá*, the Lagoon Complex *Bajo Sinu*, and *Ayapel* Wetlands Complex).

²⁶ The Sucre department has 6.4% of the priority areas located in the CRC, including 13 identified sites (321,403 hectares). Of them, 9,433 hectares are included in the Sanctuary of Flora and Fauna (SFF) *Corchal Mono Hernandez* (national PA), and in two regional PAs declared by the Autonomous Corporation of Sucre (Carsucre): IMD *Ciénaga de la Caimanera*, and the Regional Park of *Boca Guacamaya*. In addition, in the coastal zone the largest site is *Punta Comisario - Punta San Bernardo*, with an area of 18,811 hectares, which forms part of the priority sites for conservation of mangroves mixohalinos, marine and coastal lagoons.

²⁷ The Bolivar department has formally protected 5,802 hectares in 3 national PAs: the SFF *Los Colorados*, the SFF *Mono Corchal Hernandez* and the NNP *Corales del Rosario* and San Bernardo.

²⁸ In the NNP Paramillo, for example, the coverage has been transformed in 37,800 hectares over 460,000 hectares of the park.

²⁹ Soil Analysis of the Caribbean Region, MADS, 2011

³⁰Galindo, G., Marcelo, D., Bernal, NR, LK Vergara and Betancourth, JC 2009. *Ecoregional Planning for the conservation of biodiversity in the Caribbean continental Colombian*. Series Ecoregional Planning for Biodiversity Conservation, No.1. Research Institute Alexander von Humboldt Biological Resources, National Hydrocarbons Agency, The Nature Conservancy and the Institute of Hydrology, Meteorology and Environmental Studies. Bogota DC, Colombia.

the humid forests of *Alto Sinu*³¹, which is the habitat of threatened or endemic species like *carranchina* (*Batrachemys dalhi*) *verdelimón* macaw (*Ara ambiguus*), puma, monkey sambo (*Alouatta palliata*), and the parrot *cariamarilla* (*Gypopsitta pyrrhina*). This area is also home to 4,551 hectares of the indigenous reserve *Alto Sinu Esmeralda Cruz Grande* and *Iwagado*, which corresponds to the Embera Katío ethnicity³². The hydrological balance of the Reservoir Urrá and the Sinu basin also depend on the state of conservation in the humid forests of *Alto Sinu*; ii) the Forests and Dry Shrublands Corridor of the *Serranía de San Jerónimo*, which if properly protected would guarantee preservation of 47% of this ecosystem type in the CRC³³; iii) the Sinu Wetland Complex, which includes parts of the Sinu River and its surrounding marshes and puddles³⁴. This complex is suffering two main threats: the losses of riparian forests of the Sinu helobioma – that have practically disappeared from the basin-, and the building of infrastructure projects that affect the dynamics of the river and muddy bodies, altering local species and ecosystem stability³⁵; and iv) the Sucre department that houses endemic or threatened species: *el pato golondrino* (*Sarkidiornis melanotos*) and *Chavaria* (*Chauna chavaria*); mammals like the manatee (*Trichechus manatus manatus*); fish as *Sardinata* (*Brycon moorei*) and *Totumito* (*Abramites eques*); plants like bitter palm (*Sabal mauritiiiformis*) and *noli* (*Elaeis oleifera*); and reptiles like river turtle (*Podocnemis expansa*).

Fragmentation has generated a loss of connectivity between different landscape units, affecting animal populations³⁶. In the CRC, the gallery forests, *per se* natural corridors, are now represented by dashed narrow bands and small patches between 2 and 4 meters wide, formed by secondary forests in the early stages of succession and isolated trees along fences or interspersed with grasslands. This configuration does not provide the conditions needed by different species - more or less sensitive to the effects of the absence of coverage and/or the matrix on the edges – to disperse around vegetative cover or remaining patches of vegetation. Thus, confinement and pressure on the animal population triggers the scarcity of these species, leading to dramatic decrease in animal abundance until local extinction. A typical case takes place in the department of Sucre, which reported in 2010 the lack of large mammals, in particular some species of felines (*Panthera Onca*, *Puma concolor*) and canids (*Urocyoncinereoargenteus* and *Speothosvenaticus*)³⁷, as happens in the Maria Mountains areas (departments of Sucre and Bolívar)³⁸. These species have low levels of tolerance to transformed areas and areas with human activities, due to the competition for space and resources. The absence of large predators is an indicator of the high level of human intervention in the area, which is also reflected in the abundance of species mesopredator³⁹, in particular the ocelot, located in the Forest Reserve Protection of the Serranía de la Coraza-Colosó (*L. pardalis*), the fox dog (*Cerdocyonthous*) living in the Macaws Forest, and the Raccoon (*Procyoncancrivorus*) present in the *Los*

³¹ These forests are distributed North of NNP Paramillo and around Reservoir Urrá (116,799 ha.). They are located in the municipalities of Tierralta (Córdoba), Valencia (Córdoba), Carepa and Apartado (Antioquia).

³² Institute Humboldt, Colombia.

³³ This corridor includes portions of the territory of 12 municipalities in the departments of Córdoba (96%) and Sucre (4%). It is characterized by forests and shrubs in hillocks, and has an area of 13,343 hectares.

³⁴ It extends from the Quebrada El Nevado, in the municipality of Valencia (Córdoba) until a few miles before flowing into the Caribbean Sea. Its ecosystem marsh vegetation shows the highest goal of conservation of Córdoba (79%). In the coastal area, the Long Beach stands with an area of 1,053 ha comprising mixohalino mangrove ecosystems, with a conservation target of 100%.

³⁵ Institute Humboldt, Colombia.

³⁶ Bélisle et al., 2001

³⁷ It takes into account the results of a *Needs Assessment and Potential of Mammals Study*, by the Regional Autonomous Corporation of Sucre (CARSUCRE) and Caribbean Environmental Heritage Foundation, 2010

³⁸ Castaño et al., 2010.

³⁹ Recent studies have shown that large predators also affect carnivorous species that lie just below them in the food chain, known by the term "mesopredator". An article published in 2010 in the journal *Ecology Letters* titled "*Interactions between predators, releasing mesopredator and biodiversity conservation*" reviewed 94 studies related to large and mesopredator, revealing how big is the impact of those on the immediately below species. The article defines *mesopredators* as "general and versatile hunters, with the ability to reach high densities and to cause major impacts on a wide range of species of prey". However, sometimes the situation becomes much more complicated. When large predators are exterminated, the mesopredator ascends to the top of the food chain, which makes them super-predators, although mesopredators hardly have the same habits, or possess the same hunting abilities of the great hunters of the continent. In reviewing the field studies, it was found that a reduction of large predators allows a disproportionate increase in the mesopredator, sometimes up to four times increase. This ecological phenomenon, known to scientists as the 'release of the mesopredator', in turn affects many other species (Hance, J., 2010)

Navas Forest. The presence of patches provides refuge and food for large carnivorous species, but the lack of connection to other areas through patches of forest may be preventing their presence in the region.

Institutional weaknesses, lack of scientific information at the regional level and lack of environmental awareness, generate losses of species and destructive practices for ecosystems in the Western zone of the CRC

Before 2004, the insurgent presence in the Western zone of the CRC, and its related insecurity, inhibited the development of broad biological studies in the area (excepting some isolated studies of NGOs, and the University of Cordoba). In recent years, however, insurgency has been "*significantly reduced and [the insurgents] have been even expelled from most of the regions of the Atlantic coast. Their presence has also been reduced in the departments of Antioquia and Choco*"⁴⁰. Since 2004, safety conditions have been restored, leading to a massive demobilization of rebel groups, which is an encouraging sign of violence diminution⁴¹. Colombia is now administratively divided into four security zones, one of them is composed of Uraba, Sucre, Antioquia, Cordoba and Choco departments.

Nevertheless, even after 2004, the institutional weaknesses in the Western zone of the CRC have blocked the implementation of regional conservation activities (set by the SIRAP Caribbean Action Plan). This problem is based on the following variables: (a) Lack of information on the current status and trends of PAs in the CRC; (b) lack of information for the identification and valuation of environmental goods and services that would support decision-making; (c) Insufficient trained human resources; (d) Lack of an effective PA information system in the Western zone of the CRC; (e) Insufficient budget for implementing the SIRAP Caribbean Action Plan; (f) Lack of homologated and adopted methodologies that define categories and criteria for declaring buffer zones; (h) Lack of capacity for communication, dissemination and education.

The SIRAP Caribbean has not enough recognition in the political, social and economic level. Municipalities have not been sufficiently involved in the management of PAs and their transition zones. The environmental dimension has not been incorporated into the land-use planning at the local and regional levels. Municipalities have deficient knowledge and local management capacities for environmental land use planning and management. There is low participation and lack of social actors in the articulation between PAs and land-use planning. Projects implemented in the area tend to be improvised and without coordinated strategic thinking. Local stakeholders tend to see natural resources as an inexhaustible source, due to the lack of education and environmental culture.

Environmental authorities, research institutes, academia, have begun developing an information base on the status of ecosystems in the CRC. However, the available information is found mainly on large scales and does not integrate all the variables required to define management strategies at local level. The research is often not relevant to regional needs. Access to research products is restricted to universities, research institutes, the National Environmental System (SINA)⁴² and the Institute of Natural Sciences⁴³. For this reason, there is an obvious lack of knowledge on the socio-ecological systems at regional and local scales, which restrain effective decision-making. These information gaps impede inter-institutional and social coordination and hold back the design of effective mechanisms to mitigate pressures on ecosystems and to promote sustainable natural resources management, in particular in the Western zone of the CRC.

Baseline initiatives to reduce fragmentation and degradation of the biodiversity in the CRC

The Government of Colombia (GoC) has recently adopted six thematic categories - identified by the ecological

⁴⁰ Policy Briefing, International Crisis Group, *Working to prevent conflict worldwide*, Bogota/Brussels, Latin America Briefing N° 23, June 2010.

⁴¹ PNUD, Report MDG Goal 1 "*Eradicate extreme poverty and hunger*", 2010.

⁴² For its name in Spanish, *Sistema Nacional Ambiental*

⁴³ For its name in Spanish, *Instituto de Ciencias Naturales*, depending on the National University of Colombia

research - to be applied to the declaration and design of PAs in the country: i) extinction dynamics, ii) island biogeography, iii) metapopulation theory, iv) ecology natural disturbance, v) regulation "top-down" of large predators, and vi) landscape restoration at ecological scale. Restoration made through this *rewilding approach* is based on the regulatory role of large predators (e.g.: jaguars) to keep ecosystems integrity. These predators require large spaces and connectivities.

In 2011, the SIRAP Caribbean set as priority action the development of a Socio-Ecosystem Connectivity (SEC) Regional Strategy, by building mosaics of key terrestrial and marine ecosystems with nucleus in the PAs. This SEC strategy should be based on strengthened ties between communities and institutions to ensure the preservation and valuation of services provided by ecosystems and their connections. The SIRAP Caribbean has recognized that a fundamental aspect of land planning is the interconnection between PAs to reduce their isolation and ensure environmental sustainability. The Technical Committee of the SIRAP Caribbean identified the need of building connectivities⁴⁴ that cover the Western zone of the CRC, as follows:

- Connectivity area between IDM Zarate Malibu- Maria Mountains⁴⁵ - NNP *Corales del Rosario*, eco-region of *Canal del Dique* (Departments of Bolívar, Sucre, Atlantico and Magdalena);
- Connectivity area between Darien, *Serranía de San Lucas*⁴⁶ and the Magdalena river: including the NNP Katios, NNP Orchids, and NNP Paramillo (Departments of Antioquia, Cordoba, Sucre and Bolivar);
- Connectivity in marine-coastal areas: Caribbean corridor covering from Guajira to Cordoba.. Core areas: SFF Flamingos, NNP Tayrona, PA Ciénaga, NNP Salamanca Island Road Park, and NNP *Corales del Rosario* and San Bernardo.(the latter located in the Departments of Bolivar and Sucre).

At regional level, the environmental policy is led by the regional autonomous or sustainable development corporations (CARs⁴⁷). In the Western zone of the CRC, CARs have presence in Sucre (CARSUCRE), the Valleys of the Sinu and San Jorge (CVS), Uraba (CORPOURABA), and Choco (CODECHOCO). All CARs are part of the Sub-Regional System of Protected Areas, and the SIRAP Caribbean. In last few years, CARs have developed some biodiversity inventories, projects and initiatives on ecological restoration, land use, coastal management, watershed management plans, preliminary studies on connectivity and focal species, environmental education, and ecotourism.

CARSUCRE manages the NNP *Mono Hernández Corchal*, CSNR Sanguare, Natural Regional Park (NRP) Mangrove Systems *Boca de la Guacamaya*, and the Regional Integrated District Management (RIDM) Mangrove and Lagoon System *Ciénaga de la Caimanera*, the latter in coordination with the municipalities of Tolu, Coveñas, San Onofre and Palmetto. In the period 2013-2017, CARSUCRE will implement the project *Consolidation of the Sub-regional System of Protected Areas (SISAP) in the jurisdiction of CARSUCRE*⁴⁸, that will complement the activities to be developed by components 1, 2 and 3 of the proposed project. The *Consolidation...* project will implement activities to strengthen the SISAP working groups; to enhance the conservation and management of PAs in Sucre; to generate a biodiversity inventory oriented to identify connectivity models and key ecological structures. In the period 2014-17, CARSUCRE will provide co-financing through the mentioned project by total U\$S 525,288 (grant) and total U\$S 300,000 (in-kind).

CVS manages the RIDM Swamp Complex Sinu. In 2012, CVS has developed preliminary studies to declare as PAs

⁴⁴ Based on the portfolio of conservation priorities, SIRAP Caribbean, 2011.

⁴⁵ Its name in Spanish is *Montes de María*. It is a group of mountains of the northern coast of Colombia (CRC), which do not belong to the Andes chain, and the highlands around them. The Montes de María are the last part of the *Serranía de San Jerónimo*. They are located in the center of the Departments of Bolívar and Sucre. They are composed of three zones: 1) the area located between the Troncal de Occidente and the Magdalena River, relatively flat with no mountains and dedicated to cattle-raising and forestry; 2) the area located between the Transversal del Caribe and the Canal del Dique, mainly dedicated to agriculture; and 3) the west zones corresponding to the town of San Onofre.

⁴⁶ The *Serranía de San Lucas* is a forested massif in the Department of Bolivar with heights of 2,600m above sea level. It is included in the Magdalena-Urabá moist forests eco-region, with a rainforest ecology that includes large monkey and bird populations

⁴⁷ For its name in Spanish, *Corporación Autónoma Regional*

⁴⁸ Its name in Spanish is *Consolidación del Sistema Regional de Áreas Protegidas en la jurisdicción de CARSUCRE*

both the wetland *La Pacha* and its influence area (between the municipalities of San Pelayo and Lorica - Córdoba), and the *Bañó* Swamp and its influence area (municipality of Lorica – Cordoba). In addition, CVS coordinates the polygon areas where the proposed project will be implemented (see section B2 for details), which correspond to the municipalities of San Antero, San Bernardo del Viento, Purísima, Momil San Pelayo, Santa Cruz de Lorica, Cotorra, Cereté, Montería, Puerto Escondido, Los Cordobas, Canalete Pueblo Nuevo Valencia and Tierralta. In these municipalities, CVS will complement components 1, 2 and 3 of the proposed project in the period 2014-2017, CVS, providing grant co-financing through two CVS core programs: i) the *Sustainable Land-Use Planning and Consolidation of Departmental System of Protected Areas*; and ii) Environmental Education (approximate total U\$S 1,021,110). In addition, in the period 2014-2017, CVS will provide in-kind co-financing from its regular budget by approximately total U\$S 502,598.

In 2007, CORPOURABA adopted the Integrated Coastal Zone Management Policy in the Department of Antioquia, promoting participatory planning and resources management along with entities, guilds and communities settled in coastal areas. In addition, CORPOURABA is executing and managing: i) the Management Plan of the Biological Reserve *Ensenada de Rionegro* and its annexed marine PA created in 2011, ii) the swamps *La Marimonda* and *El Salado* (Necoclí municipality); iii) the Integrated Management Plan of Mangroves in the Uraba Gulf and Antioquia Caribbean Sea, since 2005, and the Action Plan for the Conservation and Recovery of Mangrove in the Uraba Gulf, released in 2006; iv) the Forest Reserve Management Plan for Wetlands Protection, located between Leon and Suriquí rivers (Turbo municipality) since 2008. This reserve was elevated to a Regional Natural Park status in 2011 and is located in a key connectivity area between Choco, Antioquia and Cordoba, from southern-central to the southern-western Uraba Gulf; v) the creation of the Forest Protective Regional Reserve “Mangrove of the Atrato River”, in 2010. CORPOURABA coordinates its actions with the municipalities of San Juan de Urabá, Arboletes, Necoclí, San Pedro de Urabá, Turbo, Apartado, Carepa, and Chigorodó. In the period 2014-2017, CORPOURABA will complement Components 1, 2 and 3 of the proposed project in those municipalities, by supporting the SEC Strategy through 2 programmes: i) the *Management of Native Forests and Biodiversity* programme; and the ii) *Strengthening the Environmental Management System* programme, for a total amount of U\$S 1,005,000 (grant co-financing). In addition, CORPOURABA will provide in-kind co-financing by total U\$S 1,000,000, from its regular budget.

CODECHOCO operates in the border zone with Panama, and administrates the National Protective Reserve of Leon River and Darien, in coordination with the municipalities of Acandí and Rio Sucio and the MADS. In the period 2014-2017, CODECHOCO will provide with co-financing to the proposed project by U\$S 450,000 (grant) and U\$S 850,000 (in-kind contribution from its regular budget).

Departments are the sub-national authorities in Colombia. As mentioned above, this proposed project has been identified along with the departments of the Western zone of the CRC (i.e.: Cordoba, Sucre, Bolívar, Chocó, and Antioquia). The five departments have implemented and planned actions to foster environment-friendly management in this sub-region. Co-financing detailed below is based on these baseline projects, programmes or policies already conceived:

The Departmental Government of Cordoba is implementing the Development Plan *Management and Good Governance for Cordoba prosperity- Cordoba environmentally sustainable*⁴⁹ 2012-2015. The Plan is expected to be extended for the period 2015-2017. Its main goal is to articulate actions between the department and its municipalities to enhance the protection and conservation of natural resources, especially water; to prevent and mitigate risks; and to better plan land-uses by regulating the territorial zoning plans. The Cordoba Development Plan will complement the activities to be carried out by components 2 and 3 of the proposed project, providing with co-financing by around U\$S 456,000 (grant), and U\$S 225,633 (in-kind, departmental regular budget), in the period 2014-2017.

The Departmental Government of Sucre is implementing the Development Plan *Clear Actions to Leave*

⁴⁹ Its name in Spanish is *Plan de desarrollo “Gestión y Buen Gobierno para la Prosperidad de Córdoba – Córdoba ambientalmente sostenible”*.

*Footprints*⁵⁰ 2012-2015, focused on the management of territory, risks and environment to transform Sucre “in harmony with nature”. The Plan is expected to be extended for the period 2015-2017. Its main goals are to support the definition and mapping of official borders in PAs that are part of the National System of PAs; to incentivize municipalities to enact environment policies and adopt suitable practices for soil uses, in order to protect and restore ecosystems in the broader landscape; to conserve and protect forest reserve areas essential for drinking water provision. The Sucre Development Plan will complement the activities to be carried out by Components 1, 2 and 3 of the proposed project, providing with co-financing by around U\$S 456,000 (grant), and U\$S 125,633 (in-kind, departmental regular budget), in the period 2014-2017.

The Departmental Government of Bolívar is implementing the Development Plan *Bolívar Winner*⁵¹ 2012-2015, which strategic objective #8 is “to generate a supporting programme for environmental management in Bolívar”. The Plan is expected to be extended for the period 2015-2017. Its main goal is to consolidate the departmental system of PAs (departmental roundtable, identifying new potential PAs, formulating PA management plans, designing and launching departmental portfolios of PAs, supporting local initiatives to build local systems of PAs (SILAP). The Bolívar Development Plan will complement the activities to be carried out by Components 2 and 3 of the proposed project, providing with co-financing by around U\$S 456,000 (grant), and U\$S 225,633 (in-kind, departmental regular budget), in the period 2014-2017.

The Departmental Government of Chocó is implementing the Development Plan *A New Chocó to live*⁵² 2012-2015, which strategic line is to ensure human and environmental security. The Plan includes the Biodiversity Integral Management Programme - aimed at fostering the knowledge, use and conservation of regional biodiversity through integrated processes, generating goods and services, and improving the living conditions of rural communities in Chocó. The Chocó Development Plan will complement the activities to be carried out by Components 1, 2 and 3 of the proposed project, providing with co-financing by around U\$S 356,000 (grant), and U\$S 125,633 (in-kind, departmental regular budget), in the period 2014-2017.

At national level, the National Natural Parks agency (Territorial Directorate for the CRC) is implementing the *Institutional Action Plan 2012-2019*, which objective 1.2 is to improve the governance conditions in the institutional system, by promoting the participation of strategic stakeholders and fulfilling the institutional mission of each agency. In addition, National Natural Parks has recently validated the *Biological Diversity and Protected Areas Programme 2014-2018*, that will be supported by the German cooperation. It is aimed at increasing the PAs management effectiveness, as well as their institutional and financial sustainability. Both initiatives will complement the activities to be carried out by Components 1 and 2 of the proposed project, providing with co-financing by around U\$S 1,042,333 (grant), and U\$S 401,263 (in-kind, NNP regular budget), in the period 2014-2017.

Even though, despite the efforts made in recent times by the GoC, the departmental governments and the CARs, barriers are still blocking the sustainable use and conservation of biodiversity in buffer zones, as well as the effective management of existing PAs, in the Western zones of the CRC:

Barrier 1: Lack of inter-institutional coordination, lack of scientific information at the regional level, and lack of environmental culture among local government actors, farmers, and civil society. Land planning system with no environmental component; environmentally perverse policies that facilitate strategic ecosystem fragmentation and degradation of natural resources in the zones around PAs; and lack of knowledge of natural connectivities, of the level of fragmentation of ecosystems and its consequences in the CRC.

Barrier 2: Ecosystem conservation gaps and ineffective management of terrestrial and marine protected areas existing in the CRC, due to isolation and high pressure on natural resources.

Barrier 3: The model of economic development of the region promotes economic activities with high

⁵⁰ Its name in Spanish is “*Acciones claras para dejar huellas*”

⁵¹ Its name in Spanish is “*Bolívar ganador*”

⁵² Its name in Spanish is “*Un Nuevo Chocó para vivir*”

environmental impact, such as monocrops, extensive cattle ranching, over-fishing, expansion of the agricultural frontier, oil industry, road projects, and unregulated tourism. These activities generate greater ecosystem fragmentation and isolation of protected areas in the Western area of the CRC, jeopardizing the provision of ecosystem services provided by the terrestrial and marine-coastal biodiversity.

B. 2. INCREMENTAL REASONING: DESCRIBE THE INCREMENTAL ACTIVITIES REQUESTED FOR GEF FINANCING AND THE ASSOCIATED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED BY THE PROJECT:

In order to address the barriers present in the baseline scenario, the project objective is aimed at reducing the degradation and fragmentation of strategic ecosystems in the CRC by implementing a strategy of socio-ecosystem connectivities that include inter-institutional articulation, territorial planning, social participation with an intercultural vision, good management of existing PAs, creation of new PAs, and the promotion of sustainable production models.

In this way the project will complement the actions of SIRAP Caribbean and effectively contribute to the adoption of the SEC Regional Strategy, which has been designed but not implemented at regional and local levels because of institutional weaknesses (barrier #1) generating inefficiencies in PAs management and losses in biodiversity (barrier #2) and allowing the persistence of a development model with high environmental impact (barrier #3).

The concept of *Socio-Ecosystem Connectivity (SEC)* is defined as the "collective construction of conservation mosaics and the use of spaces of socio-cultural integration to promote the recovery of degraded ecosystems through the Environmental Land Use Planning and Management and the use of participatory management tools among institutions, communities and production sectors"⁵³. The mosaic is defined as "coincidence and coordination of different conservation categories in the same territory". This approach promotes comprehensive conservation, restoration and sustainable use practices at landscape level, being appropriated by local people that support the PAs ecological viability as well as the provision of ecosystem goods and services to surrounding communities. The mosaic is built with a bottom-up approach, prioritizing needs, opportunities and proposals that respond to the local interests, perspectives and initiatives, without excluding the national and global relevance of PAs.

The project intervention areas have been selected in one continental and marine-coastal polygon (2,900,000 hectares) in a highly degraded matrix that integrate humid forests, dry forests, wetlands, marshes and coastal-marine ecosystems. About 1.5 million hectares out of the total are priority areas for conservation identified by the SIRAP Caribbean Portfolio. Only 650,000 hectares are under some form of protection (NNPs, RNPs, Integrated Management Regional Districts, CSNRs, National Protective Forest Reserves). The precise areas of connectivities will be defined during full project preparation, based on participation, socio-ecosystemic analysis, and planning with stakeholders and government agencies. Graphic1 (Annex I) shows the polygon of socio-ecosystem connectivities to be developed by the proposed project, in the Western zone of the CRC. Graph 2 (Annex I) illustrates the proposed project intervention areas and intervention areas of related projects financed under GEF-5.

At institutional level, the project will develop actions in two areas: 1) at regional level, by promoting and strengthening the processes of coordination, consultation and collective construction of the SEC Regional Strategy, and supporting the mainstream of the SEC concept into policy planning tools and land-use plans; and 2) at pilot level, by implementing the SEC Regional Strategy in pilot intervention areas, selected with replicability criteria.

The proposed project is divided into **three components**:

⁵³ In geographic terms, the *regional connectivity* is a dependent variable of the spatial structure of the landscape and the permeability of the landscape components. The core areas are the sources of dispersion and the rest of the space components increase or decrease the flow of matter and energy through the landscape. The connectivity between two core areas also will depend mainly on three properties of the landscape: the permeability of the mosaic, the presence of ecological corridors and the presence of crossing points or *estriberones*. From the structural point of view, biological corridors and connectivities between them are largely determined by the width, continuity and quality of habitat (Bennett, 2004).

Component 1: Strengthening institutional coordination and mainstreaming the socio-ecosystem approach in land-use planning, to reduce degradation and fragmentation of strategic ecosystems in the CRC.

Component 1 aims at overcoming barrier #1, through two outcomes. Outcome 1.1) The concept of SEC has been mainstreamed into policy instruments (land use plans and regional planning), improving the management and conservation of locally and globally significant biodiversity in 5 departments (Bolívar, Sucre, Córdoba, Antioquia, and Chocó) in the Western of the CRC. Outcome 1.1) will be achieved through five outputs: 1.1.1) Strategic Environmental Assessment (SEA) is applied to plans and programs of territorial rural development in the CRC, using socio-ecosystem and gender approaches; 1.1.2) A portfolio with multicriteria valuation of 6 ecosystem services covering all *connectivity zones* defined by the SIRAP-Caribbean, to enable connectivities among fragmented landscapes (swamps, wetlands, forests and coastal marine ecosystems); 1.1.3) A Regional Strategy of socio-ecosystem connectivities (SEC) in the CRC, built with participatory and gender approaches (10 high-level regional forums, 3 public forums, 15 civil society organizations, 10 ethnic groups and 8 production sectors) to integrate fragmented ecosystems; 1.1.4) The SEC Strategy (output 1.1.3) incorporated in 5 Departmental Development Plans, 10 Land-use Schemes or Plans, 2 Land-use and Watershed Management Plans (rivers Atrato and Sinú), 13 Action Plans of Environmental Authorities, and the Action Plan of SIRAP Caribbean; and 1.1.5) A knowledge-sharing platform (for education, communication and socio-cultural exchange) that supports the SEC Regional Strategy (including 12 virtual dialogues, 12 programs in regional TV, 52 annual advertisements in commercial and communitarian radios, a didactic toolbox adapted for different educational levels implemented in at least 100 educational establishments).

Component 1 will also support the expected outcome 1.2) Environmental authorities and key actors in the CRC departments have 3 decision-making tools for orientating the SEC Regional Strategy towards the recovery of ecological structure. This will be achieved through 3 expected outputs: 1.2.1) One Inter-Sectorial Information and M&E System for the implementation of the SEC Regional Strategy that identify achievements and barriers, and provide strategic guidance (through 8 semester bulletins), in coordination with the information systems of environmental agencies; 1.2.2) 60 public officers (16 environmental agencies, 5 departmental governments, and SIRAP Caribbean) have developed capacities for managing and implementing the SEC Regional Strategy through one training program that include the active participation of women (1 online course and 3 presence workshops); and 1.2.3) One monitoring program for three flagship species: marine, terrestrial and birds (Jaguar, *Meros-Chernas* and migratory birds) as indicators for the state of the connectivities.

Component 2: Creating new protected areas and improving the effectiveness of existing PAs in the CRC

Component 2 aims at overcoming barrier #2, through three outcomes. Outcome 2.1) Coastal marine ecosystems (mangroves, seagrass and coral reefs), rainforests, wetlands and swampy complexes have achieved an improved status of management and conservation. This expected outcome will be achieved through output 2.1.1) Six (6) new PAs (addressing identified conservation gaps) created and their management plans prepared (3 regional PAs and 3 civil society nature reserves -CSNRs). Connectivity corridor of 10,000 hectares in forest, swampy and marine-coastal ecosystems established; A second outcome: 2.2) Improved management effectiveness of 5 PAs in the frame of the subsystems of Protected Areas (SIRAP Caribbean, SILAP, and SAMP), will be achieved through four outputs: output 2.2.1) One Regional Information System of the PAs and conservation mosaics located in the western area of the CRC, including a database, a monitoring system, and periodic measurement of: i) the rate of transformation of strategic ecosystems, ii) the level of deterioration of the ecological structure, iii) the level of habitat fragmentation, iv) loss of connectivity between different landscape units in the areas of project intervention; output 2.2.2) Updated management plans of 4 existing PAs, integrating socio-ecosystem connectivities: 3 national PAs (NNP⁵⁴ Corales del Rosario and San Bernardo, NNP Paramillo, and NNP Katios. Total area: 551,500 ha), and 1 Regional PA (Sinú Delta) ; 2.2.3) Analysis Tool of PA Management Effectiveness with Social Participation (AEMAPPS) applied in 4 PAs, covering at least 551,500 ha; and 2.2.4) Results-Based Management Assessment

⁵⁴ National Natural Park

with SEC approach, applied in 1 Regional Subsystem of PAs (SIRAP Caribbean), and 1 thematic subsystem (Subsystem of Marine Protected Areas - SAMP)⁵⁵.

As described in section B.1, for security reasons the bulk of the Western zone of the CRC has been accessible only since 2004 resulting in scarcity in quantitative biophysical baseline information. The proposed project aims at creating a reliable database on a scientific basis at the regional level to improve the governance of natural resources in new and existing PAs, and conservation mosaics. Baseline indicators will be estimated during full project preparation, by using satellite images and applying indicators that have been already developed for other similar PAs - located out of the conflict areas. During project implementation, the information system, database and monitoring system will be designed and implemented, to monitor those indicators throughout the whole project life and beyond. A network of national PAs (under National Natural Parks administration) and regional and local PAs (under the management of CARs, civil society, or the municipalities) will be created.

In Component 2, the creation of ecological networks, comprising core areas, corridors and buffer zones, will be the main conservation tool. The tool will also be used for land-use planning incorporating the interconnection among PAs (national, regional or local) to reduce their insulation, while ensuring their ecological viability. Highly important areas for biodiversity conservation, prioritized by the Portfolio of SIRAP-Caribbean, will be selected for project intervention.

Component 3: Alternative models of sustainable production and strategies to ensure the supply of local and global ecosystem services

Component 3 aims at overcoming barrier #3, through the expected outcome 3.1) 200,000 hectares (land) and 100,000 hectares (marine) have effectively contributed to the socio-ecosystem connectivity in the CRC, through the development of 3 mosaics of conservation and sustainable use of natural resources, under the approaches of conservation of biodiversity in terrestrial and coastal-marine production landscapes. These approaches support the productivity of agricultural systems in connectivity corridors, while ensuring the efficient flow of ecosystem services. Component 3 will strengthen agricultural systems consistent with soil suitability and conservation needs. Outcome 3.1) will be achieved through 5 expected outputs: 3.1.1) Three agreements signed for the creation of mosaics involving 10 municipalities, 4 environmental agencies, at least 10 landowners and 3 producers' organizations; 3.1.2) Restoration of riparian forests in buffer zones, protected streams and canals in the Sinu River basin (100 lineal km), and its inclusion in the mosaics arrangements (see 3.1.1); 3.1.3) Design and implementation of sustainable production plans (SPPs) with new or existing certification schemes, in 3 CSNRs private lands (at least 1,200 hectares). The SPPs include: a) natural resource maps for sustainable agricultural use and planning; b) Restoration corridors of sustainable forestry; c) Measures to mitigate adverse environmental impacts on local biodiversity; 3.1.4) Set of six local networks (150 female and male beekeepers, fish folks, rural producers of vegetables, fruit and ecotourism) that incorporate the SEC approach in their production schemes (at least 1,000 hectares of mosaic); and 3.1.5) The SPPs (see 3.1.3) incorporated into management plans of (at least) 2 new regional PAs (see 2.1.1) created by the project, with socio-ecosystem approach.

Component 4: Project progress monitoring and evaluation and information dissemination. This component will make sure that the project implementation is based on results-based management and facilitate that project finding and lessons learned are applied in future operations.

The project will be implemented at sub-regional scale (Component 1), and pilot areas will cover at least 860,000 hectares (components 2 and 3). A broad range of national agencies and regional governments will participate. The scope of the project is multi-disciplinary and innovative supported by an important budget (GEF resources and co-financing) to achieve its proposed goals.

The scale of Component 1 will cover the full Western zone of the Caribbean Region of Colombia (CRC). It will involve the governments and autonomous regional corporations (CARs) of the 5 departments, and the municipalities of the islands located in the coastal area. CSO partners will also participate, and will be identified during the full project preparation on the basis of the representativeness criteria. The Ministry of Environment, National Natural

Parks, Departments and CARs will be beneficiaries and co-financiers of Component 1.

The scale of Component 2 will be 6 new protected areas to be created in zones that have the most serious problems in the Western CRC and are strategically located to generate connectivities and multiply global and local environmental benefits. The solutions implemented may be replicated in other endangered zones in the sub-region. Based on these criteria, the specific areas will be further identified during the full project preparation. A connectivity corridor of 10,000 hectares will also be included. In addition, Component 2 will work in 5 existing PAs, selected following the prioritization made by the sub-systems of Protected Areas - National Natural Parks (SIRAP Caribbean, SILAP⁵⁶ and SAMP⁵⁷), which will provide financial resources and are engaged in the sustainability of project results.

Component 3 will be implemented in pilot areas (300,000 hectares), also selected under three criteria: threat levels, replicability and representativeness, and ability to generate multiple socio-environmental benefits. Pilot areas will be further defined during the full project preparation, with the participation of local and regional producers. The Ministry of Environment, Departments and CARs will be beneficiaries and co-financiers of Component 3.

Global environmental benefits (GEBs): The SIRAP Caribbean, the departmental governments of the Western zone of the CRC, involved municipalities and CARs, civil society, agricultural farmers, and local communities will contribute to deliver the following GEBs: i) integration of 6 new PAs into the SIRAP Caribbean (ecosystems and areas of nationally and globally important biodiversity that were not represented or protected); ii) incorporation of socio-ecosystem connectivities in 250,000 hectares of newly created conservation mosaics, through participatory strategies and suitable decision-making processes, to strengthen terrestrial and coastal-marine ecosystems' capacities to provide ecosystem services; iii) recovery of 10,000 hectares of ecological structure in key coastal-marine ecosystems, mangroves and lagoon complexes, reverting their current state of high vulnerability to anthropogenic impacts; iv) increased sustainability of systems of 4 existing PAs in the CRC; v) models of natural resources sustainable management in coastal-marine ecosystems (i.e.: sustainable fishing practices out of PAs, and aquaculture) reduce the impact on coral reefs, seagrass and mangroves (organisms moving outside the PAs during their lifecycle can be fished or produced without compromising vulnerable and risk zones); vi) restoration of 100 lineal km of riparian forests, reconnection among forest relicts in the project intervention area, and provision of refuge and food for large carnivorous species; and vii) mainstreaming of conservation and sustainable use of biodiversity into public policies in 5 departments (see Table B), including departmental development plans, land-use plans, watershed management plans (POMCAs, by its initials in Spanish) and action plans of the involved environmental agencies (see Table B).

This proposed project will also generate GEBs by contributing to Aichi Targets #1, 5, 7, and 11 through the following outputs:

Aichi Biodiversity Target	Related Project Outputs	Selected SMART Indicators ⁵⁸
<i>Target 1 - By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.</i>	1. A Regional Strategy of Socio-Ecosystem Connectivities (SEC) in the CRC, built with participatory and gender approaches (10 high-level regional forums, 3 public forums, 15 civil society organizations, 10 ethnic groups, and 8 production sectors) for re-integrating fragmented	<ul style="list-style-type: none"> • Trends in public engagement with biodiversity

⁵⁶ The Local System of Protected Areas (SILAP, by its initials in Spanish) is the set of spaces with unique values for the ecological heritage of the municipality, the region or the nation. The system is essential for the conservation of biodiversity and the evolution of cultures in the towns, which for the benefit of all the inhabitants is reserved and is declared within any category of protected area designations that can be applied according to local law and regulations (SIRAP, Regional System of Protected Areas, 2005).

⁵⁷ Subsystem of Marine Protected Areas, SAMP, by its initials in Spanish.

⁵⁸ The intermediate milestones to be achieved during project implementation will be established in the full project formulation phase.

	<p>ecosystems.</p> <p>2. A knowledge-sharing platform (for education, communication and socio-cultural exchange) that support the SEC Regional Strategy (including 12 virtual dialogues, 12 programs in regional TV, 52 advertisements in commercial and communitarian radios, a didactic toolbox adapted for different educational levels and implemented in at least 100 educational establishments).</p>	
<p><i>Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced</i></p>	<p>1. Six (6) new protected areas (addressing identified conservation gaps) created and their management plans prepared (3 PAs and 3 civil society nature reserves -CSNRs). Connectivity corridor of 10,000 hectares in forest, swampy and marine-coastal ecosystems established.</p> <p>2. One Regional Information System of the PAs and conservation mosaics located in the western area of the CRC, including a database, a monitoring system, and periodic measurement of: i) the rate of transformation of strategic ecosystems, ii) the level of deterioration of the ecological structure, iii) the level of habitat fragmentation, iv) loss of connectivity between different landscape units in the areas of project intervention</p>	<ul style="list-style-type: none"> • Trends in proportion of degraded/threatened habitats • Trends in fragmentation of natural habitats
<p><i>Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.</i></p>	<p>1. At least 200,000 hectares (land) and 100,000 hectares (marine) have effectively contributed to the socio-ecosystem connectivity in the CRC, through the development of 3 mosaics of conservation and sustainable use of natural resources including 3 civil society natural reserves and private lands (at least 1200 ha) as well as 1000 ha of sustainable production systems.</p>	<ul style="list-style-type: none"> • Trends in pressures from unsustainable agriculture, forestry, fisheries and aquaculture⁵⁹ • Trends in proportion of products derived from sustainable sources⁶⁰

⁵⁹ In the proposed project, this SMART indicator will be measured through 1 operative indicator: (i) Trends in areas of forest, agricultural and aquaculture ecosystems under sustainable management.

⁶⁰ In the proposed project, this SMART indicator will be measured through 2 operative indicators: (i) number and quantity of certified products commercialized under certification schemes; and (ii) number of producers which have adapted sustainable production systems.

	<p>2. Design and implementation of sustainable production plans (SPP) with new or existing certification schemes</p> <p>Six local networks (150 female and male beekeepers, fish folks, rural producers of vegetables, fruit and ecotourism) that incorporate the SEC approach in their production schemes (at least 1,000 hectares of the mosaic).</p>		
<p><i>Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.</i></p>	<p>1. Six (6) new protected areas (addressing identified conservation gaps) created and their management plans prepared (3 PAs and 3 civil society nature reserves -CSNRs). Connectivity corridor of 10,000 hectares in forest, swampy and marine-coastal ecosystems established.</p> <p>2. Updated management plans for 4 existing PAs, integrating socio-ecosystem connectivities: 3 national PAs (NPP Corales del Rosario and San Bernardo, NNP Paramillo, and NNP Katios. Total area: 551,500 has), and 1 Regional PA (Sinú Delta).</p>	<ul style="list-style-type: none"> • Trends in protected area condition and/or management effectiveness including more equitable management • Trends in the connectivity of protected areas and other area based approaches integrated into landscapes and seascapes 	

B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF). As a background information, read Mainstreaming Gender at the GEF."

The indirect beneficiaries of the project will be 3 million inhabitants (30% of the CRC population⁶¹), who will be recipients of outreach activities (Component 1). The direct beneficiaries of Component 1 will be the inhabitants of 2 municipalities of Bolivar, 6 of Sucre, 15 of Cordoba, 2 of Choco, 8 of Antioquia (Total: aprox.1,800,000 people, of which 1,000,000 living in the municipal heads, and 800,000 in rural areas)⁶².

The project will strengthen the linkages between culture and environment through diverse regional identities. The project will promote dialogue and exchange between technical and traditional/ancestral knowledge. In the CORPOURABA jurisdiction, the indigenous groups *Chami-Senu, Katio-Eyabida, Tule, Katio Eyabida, Senu* will be permanently involved. In particular, afro-descendant and peasant communities areas will participate in the project as key stakeholders. The project will privilege the participation of respected community leaders and women, who retain traditional sustainable practices - potentially replicable to improve connectivities in other areas of the CRC.

Women heads of households and youth groups will be specially involved in sustainable production activities and environmental management at local level (Component 3), giving particular attention to those already

⁶¹ National Administrative Department of Statistics of Colombia (DANE, by its initials in Spanish), 2011

⁶² DANE, Population estimates 1985-2005 and population projections 2005-2020

working/interested in this type of actions. It is expected to work with women's associations (e.g: the Network of Afro-Caribbean Women) that are concentrated on influencing public policies, communication for development, and sustainable production projects from a gender perspective.

Pilot activities will be carried out with municipalities, working directly with 500 households to implement alternative production models, as well as with large cattle producers and ranchers' associations. The project aims at promoting the application of new tools and technologies that increase the efficiency of production systems in a sustainable way, and the incorporation of rural families in the restoration process of degraded areas. Alternative production models will increase food security and generate surpluses for beneficiary families. As well, the provision of environmental services from large livestock farms will be incremented.

Civil society organizations, guilds and social groups will participate in the design and building of conservation mosaics; in the definition of conservation figures such as the Civil Society Natural Reserves (CSNRs); and in the design and implementation of sustainable production plans (SPP) in the CSNRs (Component 3).

The right to prior consultation for indigenous people living in the Western CRC will be respected before creating any of the 5 new protected areas (Component 2). This procedure is already regulated in Colombia. The Indigenous Organization of Antioquia (IOA) and some local municipalities are already participating in land use planning process in the buffer zones of the NNP Paramillo (Antioquia), considering biodiversity conservation, water supply for towns and agribusiness. This process aims at giving a conservation status to some sacred places, of which many are also included in the SIRAP Caribbean portfolio. Therefore, the IOA will be involved in the proposed project, to help identify, delimitate, characterize, and define zoning use regulations for those areas, as for instance the *Nudo de Paramillo* (near the NNP Paramillo), where the ethnicities *Katios* and *Emberas* reside.

Major socio-economic benefits will include: i) fewer conflicts related to the use and access to natural resources by local communities, ii) improved sustainable use of natural resources related to local cultural values, iii) improvement of local food security due to sustainable production practices; (iv) development of capacities of grassroots communities and their representative groups (associations, cooperatives, organized groups) to participate in design and management of the SPPs with SEC approach, reducing the pressure on natural resources and biodiversity in the CRC (Component 3); and v) inclusion of social and communitarian participation in the PAs management (Component 2).

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

Table 2 lists the risk analysis and mitigation measures provided. A detailed risk analysis will be developed during the full project preparation.

Table 2: Risk analysis and mitigation measures provided by the project

Probability	Potencial risks	Mitigation measures provided
High	<p>Environmental:</p> <ul style="list-style-type: none"> • Occurrence of events caused by climate variations affecting the target populations. 	<ul style="list-style-type: none"> • Project activities with respect to conservation of BD include productive transformation, improving coverage and rehabilitation of native vegetation, which are expected to increase the resilience to the potential impacts of climate change and variability.
Medium	<p>Social:</p> <ul style="list-style-type: none"> • Discouragement of local communities to participate in the project. • Beneficiaries abandon the restorative production processes promoted by the project, 	<ul style="list-style-type: none"> • Project activities will be participatory designed and agreed during full project preparation • Restorative production processes are supported by the design of incentives that make them environmentally, socially and economically

	due to eventualities.	sustainable and improve food security.
Medium	<p>Political/institucional:</p> <ul style="list-style-type: none"> • Suspension of local authorities (e.g.: mayor) • Change of directors and restructuring of the CARs • Local authorities show low interest in the project, and refuse or delay the adoption of environmental authority's provisions in the adjustment of local land use plans. • Alteration of public order • Decision-makers show lack of interest in the project 	<ul style="list-style-type: none"> • The institutional strengthening and the definition of clear roles for each agency participating in the project, along with the technical backstopping and the coordination agreements, will constitute support tools for project management at regional and local level. • Government agencies will officially commit their participation in the project through signed agreements and/or letters of agreement. • Participatory spaces for discussion along with involved local authorities, will be arranged.
Low	<p>Economic / financial:</p> <ul style="list-style-type: none"> • Participating entities fail in complying with the commitments made 	<ul style="list-style-type: none"> • Financial commitment letters will be signed by the participating entities. Commitments will be made in line with Land Use Plans and Government Plans and budgets.

B.5. IDENTIFY KEY STAKEHOLDERS INVOLVED IN THE PROJECT INCLUDING THE PRIVATE SECTOR, NGOS, CIVIL SOCIETY ORGANIZATIONS, AND THEIR RESPECTIVE ROLES, AS APPLICABLE:

The Ministry of Environment and Sustainable Development (MADS) through the National Natural Parks Administration (NNP) of Colombia and the SIRAP Caribbean, will be the main national project partners. FAO will act as GEF implementing agency. NNP Administration, departmental governments and SIRAP Caribbean, together with FAO, will be responsible for regional coordination and implementation. In addition, CARs, municipalities, civil society organizations, and universities will actively participate. The project will have two levels of coordination, planning, tracking and monitoring: one Executive Committee and one Technical Committee, both will form part of the SIRAP Caribbean structure, with the additional participation of FAO. Table 3 lists project partners and stakeholders, their roles and their institutional responsibilities. This table is preliminary and will be reviewed during the full project preparation.

Table 3: Project Partners and Stakeholders

Institution	Role	Responsibilities in the project
Ministry of Environment and Sustainable Development (MADS)	Operational Focal Point to GEF. National Environmental Authority	Overall coordination between project objective, outcomes and institutional agreements, and policies and plans of the Government of Colombia, with regard to environmental issues.
National Natural Parks Administration of Colombia (NNP-Caribbean Technical Department)	National implementing partner. National Environmental Authority - Jurisdiction of National PAs in the CRC	Component 1: Mainstreaming SEC criteria into public policies Component 2: Studies of conservation priorities (regarding PAs) Component 3: Studies of conservation and sustainable use mosaics needed in the CRC
SIRAP – Caribbean.	Implementing partner at the regional level.	Component 1: Coordination and support in the construction of the SEC Regional Strategy and its monitoring system. Definition of priority zones according to the Portfolio SIRAP Caribbean. Component 2: Coordination and support in the creation of new PAs under the SIRAP-Caribbean jurisdiction Component 4: Monitor project progress
Departmental governments	Regional authorities	Regional coordination between project objective, outcomes

of Bolívar, Sucre, Córdoba, Antioquia, and Chocó.		and institutional agreements, and policies and plans at the departmental level, considering the Departmental Development Plans 2012-2015, aligned with the National Development Plan 2010-2014.
FAO	GEF Implementing Agency	Provision of technical assistance on land use planning, sustainable natural resource management, rural development, biodiversity preservation, land degradation, and sustainable livestock and fishery production. Support of methodologies according to international standards. Support and monitoring project implementation.
Sustainable Development Corporation of Urabá (CORPOURABÁ)	Environmental Authority – Department of Antioquia.	Component 1: Articulation of land use plans, and mainstreaming of SEC criteria Component 2: Biodiversity Studies Component 3: Development of local socio-ecosystem initiatives for production.
Autonomous Corporation of Dique Canal (CARDIQUE)	Environmental Authority - Department of Bolívar - Dique Canal	Component 1: Articulation of land use plans, and mainstreaming of SEC criteria Component 2: Biodiversity Studies Component 3: Development of local socio-ecosystem initiatives for production.
Autonomous Regional Corporation of Sinu Valley and San Jorge (CNV)	Environmental Authority - Department of Córdoba	Component 1: Articulation of land use plans, and mainstreaming of SEC criteria Component 2: Biodiversity Studies Component 3: Development of local socio-ecosystem initiatives for production.
Autonomous Corporation of Sucre (CARSUCRE)	Regional Environmental Authority - Northern Jurisdiction of the Department of Sucre	Component 1: Identification studies of connectivities, articulation of land use plans, and mainstreaming of SEC criteria. Component 2: Biodiversity studies. Portfolio of priority sites for conservation. Component 3: Restoration activities (mangrove ecosystems)
Local communities	Beneficiaries	Component 2: Social participation in PA management Component 3: Models of sustainable production

The project's sustainability strategy is based on a dual approach: stakeholders' ownership, and mainstreaming in policy and planning. The Regional Strategy of Socio-Ecosystem Connectivities (SEC) will be made sustainable through the consolidation of cooperation relations between public and private stakeholders, production guilds, social organizations and communities. The project aims at spreading the concept of socio-ecosystem connectivities (SEC) among all key stakeholders and fostering their ownership in the Western CRC. The project will also promote the incorporation of the SEC concept into the decision-making tool and plans (i.e. departmental and municipal development plans; national and regional PAs management plans). In addition, the Regional SEC Strategy will be articulated with the Actions Plans of the Regional Corporations (CARs). As described in Section B.2, the potential for scaling-up will be one of the selection criteria for pilot areas (representativeness, replicability, ability for generating multiple socio-environmental benefits), and the CARs, along with the departmental governments, are the key actors to continue leading the process after project termination.

In financial terms, project sustainability will be supported by the SIRAP Caribbean, which will manage the application of economic tools as Article 111 of National Act 99/2003, aimed at protecting water resources supplied through municipal and district aqueducts by investing 1% of municipal and departmental revenues, and at compensating investment projects with positive impacts on biodiversity. SIRAP is also developing an Environmental Agenda with the Departmental governments, which is expected to have budget allocations by 2014.

B.6. Outline the coordination with other related initiatives:

The proposed project is based on already on-going initiatives, programmes and policies led by the SIRAP, SIRAP Caribbean, the Autonomous Regional Corporations (regional institutions under the Ministry of

Environment), the Regional Governments, and the Ministry of Environment. These baseline and co-financing initiatives will contribute to achieve the proposed project objectives, and to guarantee the sustainability of its achievements after project termination.

In addition, the project will coordinate actions, find synergies and avoid effort duplication with the following initiatives:

- The *Strategy of the Regional System of Protected Areas (SIRAP) for the Caribbean Region of Colombia (SIRAP-Caribbean)*, which seeks to articulate the local Land-Use Plans with the SIRAP-Caribbean, through the formal commitment of 16 CARs⁶³. Component 1 will contribute to the effective implementation of this Strategy, and will promote the incorporation of the SEC concept into the Strategy, the land-use plans and regional planning in the Western zones of the CRC.
- The *Portfolio of Priority Sites for Conservation in the Colombian Caribbean*, that has proposed 185 priority areas for conservation (101 continental areas, 30 marine areas, and 54 areas with one terrestrial and one marine portion). It aims at promoting the conservation of strategic ecosystems in the CRC. Components 2 and 3 will implement field activities in priority zones identified by the Portfolio, in the Western part of the CRC.
- The *Felidae Conservation Plan in the Colombian Caribbean (2008)*, which aims at creating a comprehensive model of conservation and management of feline populations in the CRC, allowing a stage of sustainability and peaceful coexistence with related communities. The following components of the *Felidae Conservation Plan* are highly synergistic with the proposed GEF project: i) Participation and community-based component; ii) Zoning, articulation and standardization at regional level; iii) Corridors for NR integrated management; iv) Monitoring and Evaluation System. Components 1, 2 and 3 will complement this Plan in the Western zone of the CRC.

This proposal will coordinate actions with other GEF-funded projects in the CRC, and will be implemented in the Western area of the region, which has not been considered by other initiatives. Coordination schemes will be consistent and proportionate between this and the other projects, to share lessons learned and ensure cost/efficient management where synergies are identified for implementation:

- Project GEF-UNDP # 4772: "*Sustainable use and conservation of biodiversity in dry ecosystems to ensure the flow of ecosystem services and mitigate deforestation and desertification*," which seeks to reduce deforestation and desertification processes in dry forest ecosystems of Colombia, strengthening the institutional framework and policy management. Indirectly, these actions will enable the development of connectivity with other types of ecosystems in the region, especially coastal marine and humid located upstream, which will be covered by the project proposed by FAO.
- Project GEF-IADB # 4849 "*Sustainable Management and Biodiversity Conservation in the Magdalena River Basin*", which purpose is the restoration of the Magdalena basin. The department of Antioquia is slightly covered by this project, which is not planning to implement field actions in this area. This confluence territory within the Magdalena River Basin represents 14% of the area to be covered by the project of socio-ecosystem connectivity (FAO).
- Project GEF-UNDP #4916 "*Biodiversity Conservation in Landscape Impacted by Mining in the Chocó Biogeographic Region*", which aims to safeguard the biodiversity of this biogeographic region from the direct and indirect impacts of mining gold, silver, and platinum. The FAO project proposal will work in the Chocó Department, only covering the National Natural Park Katios (Component 2), to ensure the mainstreaming of the SEC concept into the Land Use Plans and other policy tools, in coordination with the departmental government (Component 1).

⁶³ Convention Framework N° 006/2005, Colombia

- Project GEF-IADB # 3532 “*Protecting Biodiversity in the Southwestern Caribbean Sea*”, aimed at protecting, conserving, and achieving the sustainable use of important marine and coastal ecosystems and biodiversity in the Caribbean Sea, through the effective implementation of the integrated Management Plan of the Seaflower Marine Protected Area (San Andres Archipelago). The FAO Project proposal will be complementary to the project #3532 in identifying and enacting cooperation mechanisms in marine-coastal areas (island and continental) located in the Colombian Caribbean, in order to not duplicate efforts between both initiatives.

The geographical distribution of intervention areas of the above mentioned GEF projects are detailed in Annex I Graphic 2 and Table 4, illustrating that there is no geographic overlap between the initiatives.

C DESCRIBE YOUR AGENCY’S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

FAO has comparative advantages to implement actions in the connectivity areas of the project, mainly land use planning, and sustainable land and water management. FAO has a long experience in promoting the sustainable management of natural resources and ecosystem services in agricultural and fishery systems, providing technical and regulatory support at global, regional and national levels. FAO has UN mandate to operate in the fishery sector, and has led the creation of the Code of Conduct for Responsible Fisheries, which integrates international agreements and precautionary principles to conserve biodiversity impacted by the fisheries sector. In addition, FAO is carrying out internal transformational changes and shares the idea that the close linkages among hunger, poverty and degradation of biodiversity and ecosystem services underscore the need for multidimensional approaches for their reduction. The proposed project and the innovative SEC concept intend to address these multi-linkages through interdisciplinary and intersectoral work.

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

FAO will contribute with \$380,000 as co-financing through:

- The UN REDD Programme in Colombia, will bring grant co-financing by \$100,000. UNREDD is supporting the report on forest carbon , the establishment of sub-national benchmarks, and the creation of forest monitoring system. UNREDD is strengthening the technical capacities of the Ministry of Environment and CARs – key stakeholders of the proposed GEF project, that will be responsible for monitoring forest biodiversity losses in the CRC;
- FAO Project “*Strengthening agro-environmental policies in Latin America and the Caribbean through dialogue and exchange of national experiences*”(GCP/RLA/195/BRA). In-kind contribution by \$80,000. This FAO project is defining and strengthening agri-environmental policies in Colombia that will serve as basis for the proposed GEF project;
- FAO Project “*Ceibas river basin: a strategic, collective and participatory alliance for its protection and for sustainable production*” (UTF /COL/030/COL). In-kind contribution by \$70,000. The experience of the FAO field team with local institutions, as well as tools and advanced and validated methodologies developed by this FAO project will be replicated in the intervention area of the proposed GEF project;
- FAO Facility TCP/COL/3301, aimed at supporting the agro-environmental project portfolio in Colombia, will provide in-kind co-financing by \$30,000;
- FAO will also provide in-kind co-financing, as inter-institutional coordination and dedicated staff time through the field program of the FAO Country Office, FAO Regional Office, and FAO Headquarters, by \$100,000.

C.2 How does the project fit into the GEF agency’s program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

The project is in line with the Country Programme Framework (CPF) of FAO for Colombia, Programme Area II “*Environment and Sustainability*”: giving priority support to natural resources planning, sustainable management and restoration, and to national capacity-building for the use and conservation of resources. The proposed

project is also aligned with the Direct Outcome #2 - UNDAF for Colombia 2008-2012: "*The national capacity is consolidated to promote environmental sustainability, disaster risk management and sustainable planning*", with the objective that "*public institutions and organizations [strengthen] their capacity to formulate and implement environmental management programs and initiatives to ensure the provision and maintenance of environmental goods and services (with an emphasis on conservation, restoration and use strategic sustainable ecosystem)*".

In Colombia, FAO is a strategic player in the construction of policy and legal frameworks for agricultural, livestock and fishery sectors, providing technical assistance in policy development, training workshops, field activities, and supporting capacity building for sustainable management of the natural resource at the community level, and small and medium-scale producers.

FAO has a long expertise in supporting GEF-related topics in Colombia eventhough not financed by GEF. Since 1980, FAO has through its office in Colombia assisted the Government of Colombia (GoC) in implementing 38 projects covering issues as: sustainable natural resources management (rural and marine areas), integrated water resources management, biodiversity use and conservation, agro-forestry restoration and development, forest action plans, strategies of control and combat against forest fires, community-based forest development, sustainable agricultural planning, among others.

FAO Colombia has also supported the GoC in the validation of priority indicators that measure the Amazonian forest sustainability; technical assistance for the creation of entrepreneurship that commercialize sustainably produced agricultural, aquaculture and forest goods; territorial planning; institutional modernization in the agricultural sector; implementation of mechanisms for soil erosion control, soil recovery and management; recovery and rehabilitation after natural disasters; pollution studies; and climate change adaptation.

Some key FAO initiatives related to this proposed project in Colombia have been: *Development of communitarian participation in the forestry sector* (PACOFOR, GCP/COL/022/NET); *Conservation and environmental rehabilitation of the Colombian Massif region* (GCP/COL/026/NET); *Forestry project in the Chinchiná river watershed* (PROCUENCA, UTF/COL/025/COL), which lessons learnt have been replicated in the Huila department; *Integration of ecosystems and climate change adaptation in the eco-strategic Colombian Massif* (UNJP/COL/032/SPA), that included an environmental and production component, ecosystem connectivities, management of vegetation reserves with high incidence over agro-ecosystems, social experiences that amplify water conservation, use and management, and disaster risk reduction; and *Formulating and implementing the Agriculture and Fisheries Plans in La Mojana Region*.

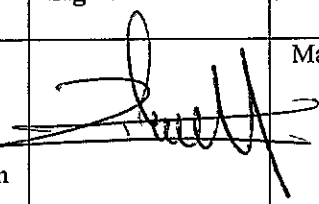
The FAO Country Office in Colombia, through the Coordination and Operations Team, the Programme Assistant(s), the Management & Finance Office, the Program Officer, the Project Officer and FAO Representative in Colombia, has the ability of supporting and monitoring project implementation, and coordinating with implementing partners. Technically, the project will also be supervised by the Lead Technical Officer (LTO) located in the Land and Water Division (Department of Natural Resources) - Regional Office for Latin America and the Caribbean (RLC FAO), and the FAO-GEF Coordination Unit (Investment Centre, Technical Cooperation Department), FAO Headquarters, Rome.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

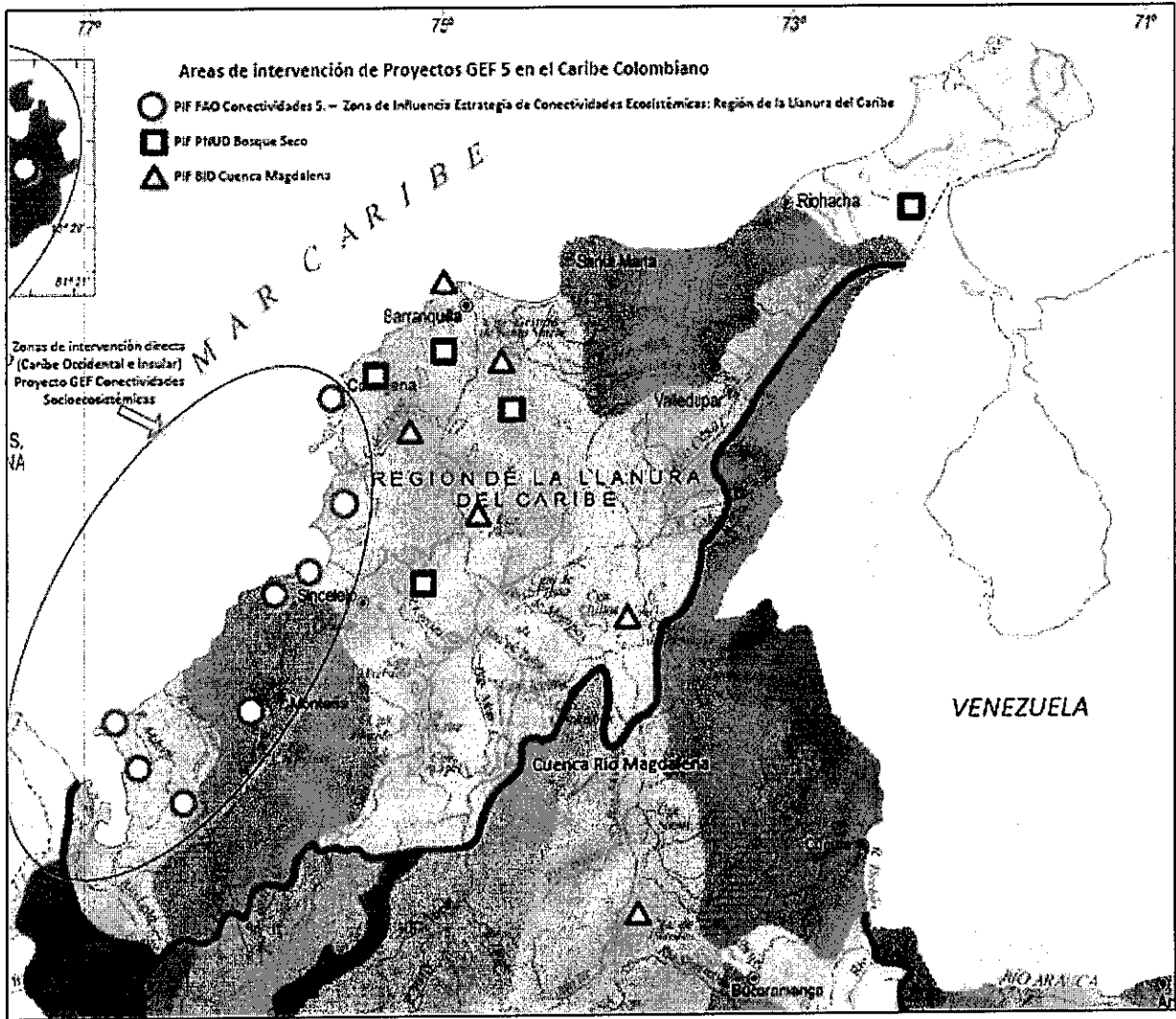
A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Alejandra Torres Dromgold	Head Office of International Affairs Ministry of Environment and Sustainable Development	Ministry of Environment and Sustainable Development	9 NOVEMBER 2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Laurent Thomas Officer-in-Charge Investment Centre Division Technical Cooperation Department FAO Viale delle Terme di Caracalla (00153) Rome, Italy TCI-Director@fao.org		March 27, 2013	Ivan Leon - and Benjamin Kiersch	+57 (1) 3465101 ext. 131 +56-2 9232129	Ivan.leon@fao.org Benjamin.Kiersch@fa o.org
Barbara Cooney FAO GEF Coordinator Email: Barbara.Cooney@fao.org Tel: +3906 5705 5478					

**Graph 2:
Intervention Areas of Related Projects
financed under GEF-5 in the Caribbean Region of Colombia**



Note: From left to right: the ellipses show the project intervention areas of the project proposed by FAO, the smaller light blue circles indicate the pilot areas where the FAO proposed project is expected to be implemented; the red triangles identify intervention areas of IADB project #4849; and the blue squares indicate the intervention areas of UNDP project #4849. Source: Compilation based on data provided by MADS and SIRAP Caribbean, 2002.

Table 4: Geographical Intervention Areas of of Related Projects financed under GEF-5 in the Caribbean Region of Colombia

		UNDP Project Dry ecosystems (#4772)	IADB Project Magdalena basin (#4849)	FAO Project Socio-Ecosystem Connectivity
Sub-region (East, Central, West, Island)	Departament	Project intervention areas	Project intervention areas	Potential areas of project intervention
East	<i>La Guajira</i>	Dibulla and Riohacha	---	---
East	Cesar	---	Ciénega of Zapatosa	---
Center	Atlántico	Luruaco and Repelón	Barranquilla	----- -
Center	Bolívar	Carmen of Bolívar, San Juan, Nemopuceno, San Jacinto,	Achí, Cartagena	----- -
Center	Sucre	San Onofre, Colosó, Chalán, Ovejas.	Majagual, Guaranda, Sucre	
West Central	Bolívar and Sucre	-----	----- --	Reefs of Rosario and San Bernardo, swamps of Caimanera
West	Córdoba	-----	----- --	Sinú Delta, Deer beach, La Rada, Long Beach, Punta Brava, Los Cordobas, Alto Sinu, Corridor Abbe Cayman NNP Paramillo
West	Antioquia	-----	----- --	Marimonda swamp, NNP Paramillo, NNP Katios, Aguila Bay, Río Negro complex, El Salado and Punta la Desgracia
West	Chocó	-----	----- --	La Playona, Capurganá, NNP Katios, lower basin of the Atrato river, Acandi.

Source: Compilation based on data provided by MADS and SIRAP Caribbean 2012