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Project Identification Form (PIF) entry – Full Sized Project – GEF - 7

LDN Target-Setting and Restoration of Degraded Landscapes in Western Andes and Coastal areas

Part I: Project Information

GEF ID
10184

Project Type
FSP

Type of Trust Fund
GET

Project Title
LDN Target-Setting and Restoration of Degraded Landscapes in Western Andes and Coastal areas

Countries
Ecuador,

Agency(ies)
FAO,

Other Executing Partner(s)	Executing Partner Type
Ministry of Environment (MAE)	Government

GEF Focal Area

Land Degradation

Taxonomy

Influencing models, Focal Areas, Land Degradation, Sustainable Land Management, Restoration and Rehabilitation of Degraded Lands, Sustainable Livelihoods, Improved Soil and Water Management Techniques, Ecosystem Approach, Sustainable Pasture Management, Sustainable Agriculture, Land Degradation Neutrality, Land Cover and Land cover change, Carbon stocks above or below ground, Land Productivity, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Demonstrate innovative approache, Stakeholders, Civil Society, Non-Governmental Organization, Community Based Organization, Academia, Communications, Awareness Raising, Behavior change, Type of Engagement, Consultation, Participation, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Beneficiaries, Gender results areas, Participation and leadership, Capacity Development, Capacity, Knowledge and Research, Knowledge Exchange, Peer-to-Peer, Knowledge Generation, Training

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48 In Months

Agency Fee($)

419,540

Submission Date

4/5/2019

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount($)	Co-Fin Amount($)
LD-1-1	GET	1,606,500	13,229,854
LD-1-2	GET	1,606,500	13,229,854
LD-2-5	GET	1,203,210	7,517,721
	Total Project Cost ($)	4,416,210	33,977,429

B. Indicative Project description summary

Project Objective

Promote SLM/SFM for the recovery and restoration of prioritized landscapes that sustain environmental services and food security and establish support mechanisms for achieving and monitoring LDN

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)

| 1. Strengthening the Enabling Environment for LDN monitoring and target- setting along with the promotion of SLM/SFM in prioritized landscapes | Technical Assistance | 1.1. LDN baseline (land cover & land cover change, soil organic carbon and land productivity) assessed and monitoring systems in place

1.2. Inter-institutional coordination decision-making and implementation capacities enhanced throughout the LDN process at national and local levels

1.3. LDN mainstreamed in selected national policies and planning processes at various levels | 1.1.1. Baseline assessment of LDN indicators conducted at national and local scales

1.1.2. Participatory assessment of SLM practices that avoid and reduce land degradation and restore ecosystems, reduce emissions and improve the provision of ecosystem services conducted

1.1.3 Monitoring system for LDN indicators and implementation at the national level integrated in national land use monitoring systems

1.2.1. Capacity development program in place for LDN target setting, implementation and monitoring for national and local government staff and farmers with a gender approach

1.2.2. LDN decision support system for target-setting, planning & governance mechanisms with national and local stakeholders established

1.3.1. Strategic policy and territorial planning instruments to mainstream SLM and LDN at national and local level in place

1.3.2 National Action Plan for LDN designed and operational | GET | 1,187,900 | 7,517,722 |

2. Demonstrating the LDN approach and promoting sustainable livelihoods through avoidance/ reduction of land degradation, restoration of ecosystems, and scaling out of SLM/ SFM practices in prioritized landscapes.	Investment	2.1 Improved land management practices selected and implemented in forest, paramo and agricultural intervention areas to avoid and/or reduce land degradation and restore ecosystem services _Indicator LD-3.2.: 4,000 ha of forest and paramo areas restored to maintain ecosystem services_ _Indicator LD-4.3: 8,000 ha. of production landscapes under SLM_ _Indicator LD-4.4: 25,000 ha of high conservation value forest loss avoided_ _Indicator CC-6.1: 12,170,020 tCO2e sequestered or avoided due to SLM practices and avoided deforestation_ _Project indicator 2: Land productivity and livelihood of smallholders improved through SLM/SFM (in USD, to be defined during full project preparation)_	2.1.1 Participatory landscape- and gender- specific LDN implementation plans in place 2.1.2. # of Gender-sensitive SLM/SFM practices implemented in project intervention areas (forests, paramos and production landscapes) restoring land cover, soil organic carbon, the hydrological regime and increasing the productivity with proven cost-benefit ratio (disaggregated by gender)	GET	2,263,000	20,816,826

3.Promoting innovative incentive mechanisms that encourage adoption of SLM/SFM practices in agricultural and forest landscapes	Technical Assistance	3.1 SLM/SFM mainstreamed in value chains and operations of existing financing mechanisms and rural services *Indicator 11: 6.000 direct beneficiaries with improved access to services for SLM/SFM adoption, at least 40% are women.*	3.1.1 Incentive mechanisms strengthened and supporting SLM/SFM adoption by small-farmers and their associations 3.1.2.Targeted value chains analyzed through life-cycle assessment (EX ACT Value Chain tool[1]) 3.1.3 Targeted SLM-friendly value chains fostered through market linkages, enhancing resilience and socio-economic benefits (*based on 3.1.2*) ――――――――― [1] http://www.fao.org/tc/exact/ex-act-tool-for-value-chains/en/	GET	552,000	3,322,909
4. Project Monitoring, Evaluation and lesson learned.	Technical Assistance	4.1. Knowledge management, M&E and lessons learned disseminated	4.1.1 Project mid-term and final evaluation conducted 4.1.2 Global Environment Benefits, co-benefits and costs of SLM/SFM monitored, assessed and lessons analyzed. 4.1.3 Knowledge management products developed and disseminated 4.1.4 Communication strategy developed and implemented to support SLM/SFM scaling up to meet LDN targets	GET	203,014	702,000
			Sub Total ($)		4,205,914	32,359,457

Project Management Cost (PMC) ⓘ

		GET	210,296	1,617,972
		Sub Total($)	**210,296**	**1,617,972**
		Total Project Cost($)	**4,416,210**	**33,977,429**

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Government	Ministry of the Environment of Ecuador (MAE)	Public Investment	Recurrent expenditures	702,000
Government	Ministry of the Environment of Ecuador (MAE)	Public Investment	Investment mobilized	1,595,293
Government	Ministry of the Environment of Ecuador (MAE)	Grant	Investment mobilized	5,633,333
Government	Ministry of Agriculture and Livestock (MAG)	Public Investment	Recurrent expenditures	702,000
Government	Ministry of Agriculture and Livestock (MAG)	Public Investment	Investment mobilized	5,837,212
Government	Ministry of Agriculture and Livestock (MAG)	Loans	Investment mobilized	7,211,591
Donor Agency	Korea Forest Service	Grant	Investment mobilized	376,000
Government	Local Governments of Imbabura, Pichincha, Chimborazo, Tungurahua, Bolivar, Santa Elena and Manabi	Public Investment	Investment mobilized	1,788,000
GEF Agency	FAO	Grant	Investment mobilized	632,000
CSO	CONDESAN	Grant	Investment mobilized	500,000
Beneficiaries	Beneficiaries	In-kind	Recurrent expenditures	9,000,000

Total Project Cost($)   33,977,429

Describe how any "Investment Mobilized" was identified

The Government of Ecuador has offered to mobilize resources from the following programs in support of the GEF grant by way of scaling up, replication and other means to be further defined under the PPG. 1. Government of Ecuador (MAE and MAG): • National Restoration Plan of Degraded Ecosystems (NRPDE); • Catalyzing Inclusive Value Chains with Partnerships (DINAMINGA); • Integrated Management for the Fight against Desertification, Land Degradation and Adaptation to Climate Change – (GIDDACC); • Implementation of SLM Practices and Capacity Building in Communities affected by Degradation (UNCCD and the Korean Forest Service (KFS); • Rural Good Living Program (IFAD loan) 2. FAO: Forest and Farm Facility (GCP /GLO/931/MUL)

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
FAO	GET	Ecuador	Land Degradation	LD STAR Allocation	4,416,210	419,540	4,835,750
				Total GEF Resources($)	4,416,210	419,540	4,835,750

E. Project Preparation Grant (PPG)

PPG Amount ($)

150,000

PPG Agency Fee ($)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
FAO	GET	Ecuador	Land Degradation	LD STAR Allocation	150,000	14,250
				Total Project Costs($)	**150,000**	**14,250**

Core Indicators

Indicator 3 Area of land restored 🛈

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4000.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored 🛈

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

Indicator 3.2 Area of Forest and Forest Land restored 🛈

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
4,000.00			

Indicator 3.3 Area of natural grass and shrublands restored ⓘ

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

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored ⓘ

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

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas) ⓘ

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
33000.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified) ℹ

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

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares) ℹ

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

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems ℹ

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

8,000.00

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided ⓘ

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
25,000.00			

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated ⓘ

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	12170020.00	0.00	0.00	0.00
Expected metric tons of CO_2e (indirect)	0.00	0.00	0.00	0.00

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector ⓘ

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	12,170,020.00			
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting	2020			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector ⓘ

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)				
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable) ⓘ

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable) ⓘ

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

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

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	2,400			
Male	3,600			
Total	6000	0	0	0

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

Part II. Project Justification

1a. Project Description ⓘ

In Ecuador, agriculture contributes an average of 11% to the GDP and generates employment for 28% of the Economically Active Population (EAP)[1]. The total agriculture land of Ecuador covers 8,933.864 ha (31%) out of a total area of more than 25,637.000 million ha. However, 47% of the country's surface presents some degree of land degradation[2], which is referred as a process of continuous conversion of natural vegetation areas to croplands, pastures and other uses. The direct causes of land degradation are deforestation, vegetation removal, overgrazing, unsustainable management of crops and pastures, and the overexploitation of forests. Poverty, weak governance systems, lack of effective land use planning tools, population growth and climate change are the main underlying drivers of land degradation and the relative importance of these drivers vary according to the social and ecological contexts of different regions in the country. Due to land degradation, natural vegetation cover and fertile soils have been lost, resulting in economic losses for the agriculture sector, loss of ecosystem services and a higher vulnerability to climate change.

Land use[3] and ecosystems in the project intervention areas

The selected region includes a diverse mosaic of land uses and landscapes. The *Coastal Mountain Range of Manabí and Santa Elena* (288,047 ha) provinces are located in the central coast of the country encompassing 26,529 ha (9%) of croplands, 22,259 ha (7.7%) pasture and 232,940 ha (80%) forests. The agricultural products are banana, maize, root crops and pastures. Forest and deciduous shrubs, semi-deciduous and seasonal evergreen cover 80% of the area. The *Paramos of Chimborazo and Carihuairazo* (228,926 ha) are located in the central Andean mountain range, with 39,899 ha (17%) cropland, 74,576 ha (32%) pastures and 91,057 ha (40%) forest/paramo. The most important agricultural product are maize, potatoes, wheat, roots and pastures. The area contains important high altitude paramo and shrubland ecosystems, which cover 40% of the land. The *Andean forest and inter-Andean valley of Imbabura and Pichincha* (175,641 ha), located in the north of Ecuador, comprises over 120,521 ha (68%) of agricultural land, and 89,398 ha (51%) of forest/paramos. The area contains important high altitude paramo grasslands (wetlands), semi-deciduous forest, montane forest and shrubland ecosystems.

Land degradation and its drivers in the project intervention areas

According to the National Assessment of Land Degradation (2017), the project intervention areas present different levels of land degradation that range from *mild to high*:

Project intervention area	Area with mild, moderate and high land degradation[4] & [5]	Main drivers/ causes of land degradation	Main types of land degradation
Manabí-Santa Elena	22% mild 53% moderate 23% high	Overgrazing Management of crops and pastures, Land use management Urban development and infrastructure Deforestation and natural vegetation cover loss	Biological and natural degradation Erosion Soil chemical and physical deterioration Water pollution
Chimborazo-Carihuairazo	21% mild 70% moderate 5% high	Management of crops and pastures, Land use management Deforestation and natural vegetation cover loss Overgrazing Changes in hydrological cycles	Biological and natural degradation Erosion Soil chemical and physical deterioration Water pollution
Pichincha-Imbabura	17% mild 76% moderate 6% high	Changes in hydrological cycles Overgrazing Deforestation and natural vegetation cover loss Management of crops and pastures, Land use management Urban development and infrastructure Industrial and mining activities Contaminant discharges	Biological and natural degradation Erosion Soil chemical and physical deterioration Water pollution

In general, land degradation in the project intervention areas is associated with unsustainable and inefficient practices such as overgrazing or poor management of crops and pastures (excessive use of fertilizers, pollution, and soil compaction). Biological degradation is the most prevalent type of degradation in the area including biodiversity decrease and loss of biomass. Soil degradation, due to chemical and biophysical processes includes decline in soil fertility and organic matter content, soil salinization and alkalization, soil compaction and crusting and associated loss of the soils bio-productive

functions. Furthermore, the three selected zones are located in drylands as per UNCCD categories (semiarid, dry-subhumid and presumed drylands). Drylands are most likely to be more vulnerable to degradation from climate change and direct human pressures, hence causing the loss of economic productivity of land (IUCN, 2018). Poor management of drylands can exacerbate drought and lead to desertification.

Deforestation in the project intervention areas

Ecuador experienced a gross annual deforestation of 97,918 ha/year (period 2008-2014). The total project intervention area of 692,812 ha maintain an average of 55% cover of montane forests and paramo grasslands, which are key for the provision of ecosystem services and play an important role in maintaining the connectivity of areas with high biological value. However, national statistics indicate that between 2008 and 2014, 8,651 ha of forest were lost in the areas of intervention (Chimborazo-Carihuairazo 1.116 ha, Manabí-Santa Elena 4.436 ha and Pichincha-Imbabura 3.097 ha)[6]. Forest cover decrease in these areas is mainly associated with the expansion of agricultural lands affecting locally available water and leading to biodiversity loss and land degradation. The remaining forest ecosystems are key to providing water regulation for the production systems (crop, pasture and planted forest), sustaining agricultural productivity and ensuring food security at local and national levels.

Ecosystem services in the project intervention areas

Two of the three project intervention areas are located in the Ecuadorian Andean tropical ecosystems, which are of global importance because of the unique biodiversity and range of services they provide. Among the most important ecosystem services, they contribute to provisioning services: water storage and supply for human consumption, agricultural production and hydroelectric power generation. Additionally, the Andean systems if well managed constitute an important carbon sink and contribute substantially to mitigate the effects of climate change by removing carbon from the atmosphere through above and below ground biomass. These ecosystems can store between 53 and 205 t C ha-1) in their aerial biomass (BA), and between 8.45 to 324 t C ha-1 in the first decimeters of the soil (Gibbons et al., 2010; Moser et al., 2011). Up to 200 tons of organic carbon occurs in soils on some sites of the intervention areas (FAO, 2018).

The three selected project intervention areas also provide a wide range of ecosystem services. Forests of the *Coastal Mountain Range of Manabí and Santa Elena* have been identified as critical areas for habitat conservation at the national level (Cuesta et al. 2017)[7]. In the *Chimborazo-Carihuairazo* area, ecosystems provide cultural services, tourism, habitats and water regulation. In the *Pichincha-Imbabura* landscape, the ecosystems are key to providing water regulation for the agricultural and cattle production systems of small farmers. In these cases, increasing land degradation and precarious access to water and climatic conditions incite farmers to use more chemical fertilizers to sustain crop production. Also, extensive grazing in paramo ecosystems coupled with the use of fire generate negative impacts on the structure and function of these ecosystems (Matson and Bart 2013)[8]. Meanwhile, in the coastal zone of *Manabi-Santa Elena*, ecosystems control erosion and provide raw materials, sequester carbon, provide habitats, tourism and water regulation. In this zone, degradation is related to the unsustainable use of forest resources and unsustainable agricultural practices, such as the burning of crop residues.

Climate change impact

Climate change is an additional pressure factor for land degradation in the area of intervention. Climate change scenarios (MAE, 2017)[9] show that by 2040 the average rainfall will increase from 4 to 10%, however, unstable rainfall patterns add uncertainty on water availability and reliability for crops and other uses. Average temperature will increase (range of 0.66-0.87 °C), consequently, water use and evapotranspiration will increase and these landscapes could become more vulnerable to drought despite the increase of rainfall predicted, especially during dry season. In addition, the increase in average temperature will affect the capacity of carbon storage in soils and reduce the soil/water regulation capacity, increase risk of soil erosion and the decomposition of organic matter (Buytaert et al., 2011; Urbina & Benavides, 2015; Hribljan et al., 2016). The resulting changes in these ecosystem functions could threaten the carbon stability of high Andean wetlands paramo), transforming them from a long-term sink to sources of emissions.

Socioeconomic context

The main source of income for the population in the selected area is agriculture. In the area, poverty rates range from 82% to 94% and food insecurity, expressed as stunting, from 21% to 48.8%[10]. The main activities are subsistence agriculture (maize, wheat, potatoes, roots, beans, medicinal plants and fruits) and extensive livestock[11]. Agricultural practices are inefficient and contribute to land degradation, deforestation and reduction of soil quality, which undermines small farmer's productivity and exposes them to climate hazards. Further, several SLM practices have been piloted and implemented, nevertheless, they have not been mainstreamed in policy or scaled out through technical packages and recommendations that could be implemented in other areas.

Extension services

Smallholders have limited access to extension and financial services in the project intervention areas (only between 4 and 7% of farmers have access to these services). Additionally, rural producers are unable to address problems such as natural and social capital loss or diversity loss in production systems and are therefore highly dependent on extension services. These extension services work under a productive approach and need to include new perspectives such as LDN, SLM or a landscape approach on their daily activities with farmers.

Financial institutions & markets

There is an increasing interest in financial institutions to incorporate sustainability criteria in their operations. However, formal financial services maintain their conventional productivity-focused products and services. National financial institutions lack knowledge in offering green financial products to land users who could apply sustainable agriculture practices. They also lack the capacity and systems for monitoring and verifying sustainability issues. The project targeted areas have the potential for generating ecosystem services and goods. However, small-scale farmers have limited access to differentiated markets and this works as a disincentive for sustainable agriculture/forest management. In addition, local communities and smallholders have few or none capacities in developing value chain management plans. National technical assistance in supporting access to financial instruments and local/regional markets is also very restricted.

Institutional context

The Government of Ecuador (GoE) has already developed a series of plans and projects to guide its investments in natural resource management, but they lack an integrated multisector approach that could form the basis for LDN target setting and SLM/SFM implementation[12]. Additional work is required in order to demonstrate the LDN approach and integrate it into inter-sectoral planning processes to avoid, reduce and reverse land degradation, and enhance responsible and inclusive governance of land and investments. Moreover, there is a need to enhance synergy and integrate actions to mitigate and adapt to climate change, to conserve and sustainably use biodiversity and increase food production and other socio-economic benefits. In addition, while the country has carried out significant efforts to strengthen the national land use monitoring systems, they need to be reinforced in order to integrate LDN indicators at the landscape and national scale.

Despite efforts being made by the GoE in addressing land degradation, there are some remaining barriers:

Barrier 1.A: *Limited information, knowledge and capacities affect countries reporting to UNCCD and to other international commitments.*

During the UNCCD COP 12 in 2015 held in Ankara, parties agreed that voluntary LDN targets will be selected by countries themselves and LDN will be mainstreamed into national plans for combating land degradation. Land degradation neutrality is "*A state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems.*" (Decision 3/COP.12, UNCCD, 2015a). As per the LDN scientific conceptual framework, the LDN approach aims to counterbalance (within individual land types or landscapes), the expected loss of productive land with the recovery of degraded areas through a set of measures to conserve land resources, maintain the delivery of ecosystem services, and restore and rehabilitate degraded land (UNCCD, 2017).

Ecuador, as signatory of the UNCCD, has committed to set voluntary LDN targets and to monitor key indicators such as (i) land cover & land cover change, (ii) land productivity and (iii) soil organic carbon levels. However, LDN target- setting has not been fully applied by the country due to knowledge and capacity constraints. Despite progress made in recent years in other monitoring processes such as the National Forest Monitoring System (NFMS), the Biodiversity Monitoring (BM) as well as modelling processes of desertification and drought, implemented by the MAE and the MAG, respectively, knowledge is still limited when focusing on the external drivers and pressures of land degradation, degradation processes and its impacts on ecosystem services and food security. Furthermore, the existing knowledge about the functioning of ecosystems and their relationship with the services they provide (cultural, regulating, provisioning and supporting) is incomplete, fragmented and limited.

In Ecuador, there are persistent knowledge gaps on how SLM/SFM practices can impact on productive and forest landscapes (i.e. biophysically and economically). SLM/SFM practices have been implemented, throughout a number of projects, in several regions of the country, but these practices are neither registered nor monitored. Consequently, information and lessons learned cannot be disseminated and/or escalated at a national level and decision-making is not well-informed.

Barrier 1.B: *Weak inter-institutional coordination, planning frameworks, effective governance and institutional capacities regarding SLM mainstreaming for LDN achievement.*

Capacity is lacking both at the institutional (central and local Government) and grassroots level (local communities, NGOs, cooperatives, farmer unions) to mainstream and implement LDN. National and local planning systems lack LDN/SLM criteria and collaboration across sectors is still limited and/or not effective. The existing institutional and legal frameworks do not address land degradation across sectors neither do they consider its effects on food security and the maintenance of ecosystem services.

The Secretary of Planning and Development (SENPLADES) provides an operational framework for spatial planning in Ecuador. The instruments for local planning are the *Territorial Zoning and Development Plan* (TZDP) formulated throughout all the administrative levels (local, municipal, regional, and national). In recent years, there has been a significant effort to include ecological and economic zoning in local planning. The MAG has developed an agro-ecological zoning tool as part of the *Public System of Agricultural Information (SIPA)* as an effort to guide territorial planning in local MAG`s dependencies. However, in practice, agricultural development still lacks of sectoral integration. Institutions are short of relevant information to ensure SLM mainstreaming and LDN implementation.

Ecuador has not yet set its LDN targets. LDN, being a multisectoral approach, requires that government institutions engage in an integrated, multilevel and cross-sectoral technical and political process. The *Core Group for the Evaluation of Land Degradation*, created through the GEF #4922 "*Decision Support for Mainstreaming and Scaling out of Sustainable Land Management*", it is a multi-stakeholder technical platform that allow developing the national evaluation and was a coordination space of multiple ministries and national organizations. Based on this experience, this platform can be enhanced to cover LDN target-setting and implementation.

Barrier 2: *Unsustainable land management practices are widely applied and forest/ agricultural systems lead to negative land degradation trends*

Overgrazing, unsustainable management of crops and pastures and the overexploitation of forests are the most important underlying direct causes of land degradation. In addition, climate change adds pressure on ecosystems and productive landscapes due to changes in temperature and precipitation and more frequent extreme events. For example, in *Manabí-Santa Elena* unsustainable management practices such as overgrazing, deforestation or removal of natural vegetation are being applied on the field. In *Chimborazo-Carihuairazo* the same is happening but hydrological cycles are being altered as well. In *Pichincha-Imbabura* local population is facing problems with pollutant discharges. Agricultural and livestock production systems are extensive, inefficient in use of resources (land, labour, energy) and result in low productivity. This structural cause is influenced by the lack of capacity of both institutional and grassroots to mainstream and implement SLM practices. Even though recent developments have increased the knowledge on combating land degradation, the SLM concepts are mostly interpreted as soil fertility management, erosion control and increased use of agricultural inputs for productivity improvement in specific crops and livestock enterprises rather than sustainable and resilient production systems. At policy level, this situation is reflected in inadequate design of agriculture support programs (commodity-focus perspective), lack of a harmonized agro-environmental strategy and financing mechanisms that promote SLM/SFM. As a consequence, production strategies focus on short-term productivity and do not incorporate the vision of applying SLM practices across production landscapes for sustaining a range of ecosystem services and restoring degraded lands.

Barrier 3*: Rural services and incentives promote unsustainable land management practices*

Besides that extension coverage is limited, at present, extension services fail to consider the linkages within the agri-food system and across agricultural landscapes. To date, the extension service has been focused on yields per hectare as a performance metric, while other indicators (cost, time, efficiency) are neglected. The latter affects land degradation, food security, biodiversity, resilience and GHG emissions in the agricultural production, and related socioeconomic benefits.

Furthermore, rural credit services frequently support unsustainable agriculture practices. Public policies are not harmonized and sometimes end up generating perverse incentives. There are policies promoting "modern" technological packages, the use of improved seeds, agrochemicals, and monoculture. Food value chains have not been assessed throughout its full life cycle (input, supply, production, transport and processing).

 2) Baseline scenario and associated baseline project

The Government of Ecuador (GoE) acknowledge the above-mentioned challenges and is committed to provide an effective response to the prevailing deficiencies in the coordination across sectors and government levels. The Government recognises the need to enhance capacities for SLM implementation and the urgency to strengthen the necessary incentives and mechanisms to contribute to LDN implementation and sustainable rural livelihoods. Providing an effective response to these challenges is a priority for the country, for which reason it is directing towards the improvement of monitoring systems, sustainable, resilient and efficient agricultural production, as well as forest restoration initiatives, as detailed in the baseline described below.

·   International baseline scenario: Country's progress or status in setting LDN targets and country's targets associated with regional or global processes for SLM / SFM or restoration.

Ecuador, as a signatory of the UNCCD, is committed to set and implement measures that meet the global commitments of LDN, and in this way, contribute to goal 15.3 of the SDGs to achieve LDN by 2030. The *National Restoration Plan of Degraded Ecosystems* presented Ecuador commitments for forest landscape restoration and conservation under *Initiative 20x20*, which contribute to the *Bonn Challenge*. This project will contribute to the country's compliance with its ecosystem restoration goals. Updated targets of the plan are: 1) By 2021, the national surface under restoration processes will increase to 129,700 ha, 2) Up to 2021, 2,039,755 people will be benefiting directly and up to 15,338,029 indirectly through restoration processes.

·   National baseline scenario: Institutional enabling environment, policy tools and instruments

In Ecuador, a number of policies, laws and strategies are addressing sustainable agriculture and forest management:

(i) National Development Plan 2017-2021: The *National Development Plan* foresees several targets such as 1) To maintain at least 16% of the national territory under conservation; 2) To reduce the deforestation rate by 15%, and increase the carbon stock by 20%, compared to 2000-2008 levels; 3) To decrease the Vulnerability Index of population, livelihoods and ecosystems from high to low; 4) To increase to 129,700 ha the national surface under restoration processes and5) To achieve by 2030 the capture of 9,206,879 tCO2 equivalent, through restoration processes started in 2014.

(ii) Constitution of the Republic of Ecuador (Art 409): It determines the conservation of the soil, especially its fertile layer, as a public interest and national priority. It aims at establishing a regulatory framework for its protection and sustainable use to prevent its degradation. In areas affected by degradation and desertification processes, the State will develop and stimulate afforestation, reforestation and revegetation projects that avoid monoculture and use, preferably, native species adapted to the area.

(iii) Organic Code of the Environment: It promotes the conservation and sustainable use of soil that prevents erosion, degradation, desertification and allows its restoration (Art 5-5). In addition, it encourages the implementation of measures and actions to avoid deforestation, degradation of natural forests and degradation of ecosystems (Art 259 -4) as well as the rehabilitation and protection of areas vulnerable to floods, droughts, frosts and soil degradation (Art 261-4).

(iv) National Climate Change Strategy: The following goal related to climate change adaptation is given: "At least two projects of sustainable land management have been generated to combat desertification and land degradation in the areas most affected considering criteria of climate change".

(v) REDD + Action Plan: The REDD + Action Plan "*Forests for Good Living"* is a management tool to address the causes of deforestation and mitigate climate change in the field of land use, land use change and forestry (USCUSS), that establishes the guidelines for the implementation of REDD + in Ecuador.

i) Baseline initiatives led by the Ministry of Environment (MAE)

(i) Unique System of Environmental Information (SUIA): MAE provides public information about protected areas, deforestation, ecosystems, land use systems, national environmental indicators through the SUIA[13]. The information embedded in this system will support the LDN target setting and LDN metrics will be integrated in SUIA during the project implementation. As mentioned, SUIA will coordinate with the MAG`s information system (SIPA) to refine indicators development and monitoring of LDN targets. The SUIA as well as the SIPA (explained below) are interlinked with the *National Information System* (SNI), which is the national information platform for planning and public investment. The SNI contains land use and territorial planning tools, providing key information such as maps, orthophotographies, statistics and relevant studies about desertification, land degradation and droughts for SLM decision-making.

(ii) National Forest Monitoring System (NFMS): The NFMS of Ecuador is being developed by MAE with the support of FAO through the OpenForis[14] system. OpenForis is a set of free and open-source software tools that facilitates data collection, analysis and reporting. This initiative is a collaborative effort of numerous public and private institutions hosted by the Forestry Department of FAO. One of the components of Openforis is SEPAL[15] (System for Earth Observation, Data Access, Processing, and Assessment for Land Monitoring) that is being applied in over 85 countries including Ecuador. Through SEPAL, FAO supports the GoE on deforestation measurement, forest degradation evaluation and land use classification.

(iii) National Restoration Plan of Degraded Ecosystems (NRPDE): This plan puts in place Ecuador's commitments in forest landscape restoration and conservation given by the Initiative 20x20, which contribute to the Bonn Challenge. The updated targets of the NRPDE are the following: 1) By 2021, the national surface under restoration processes will increase up to 129,700 ha; 2) By 2021, 2,039,755 people will be benefited directly and up to 15,338,029 indirectly through restoration processes. This initiative is being funded through national budgets (U$S1.5 million) of public financing with the support of international donors. The proposed GEF/FAO project will contribute to the national NRPDE's goals.

(iv) Integrated Management for the Fight against Desertification, Land Degradation and Adaptation to Climate Change – GIDDACC (2014-2018): This project, financed with resources from the MAE, promotes the use of ancestral practices and innovative initiatives of sustainable production for the conservation of biological and water resources. Additionally, the project promotes SLM as part of the improvement of productive landscapes. The project has achieved 85 SLM practices especially in the provinces of Tungurahua, Manabí, El Oro, Napo, Pichincha and Azuay.

(v) Implementation of SLM Practices and Capacity Building in Communities affected by Degradation: This initiative funded by the UNCCD and the Korean Forest Service (KFS) has its main activities in the province of Manabí. SLM practices and capacity-building in communities affected by land degradation are being implemented within the framework of an articulated work between the MAE, MAG, local governments and the academy. The experiences obtained in this project will allow to have validated practices in the field that can be replicated in other areas of the country.

(vi) Financial instruments and land use planning to reduce emissions from the Deforestation Program: This initiative, financed by the Green Climate Fund (GCF) and implemented by UNDP, contemplates the development of national-level strengthening activities for public policies to reduce emissions from deforestation and forest degradation (REDD+). At the national level, it will provide planning management tools and a forest monitoring system It has a financing of U$S 42 million and will be active until 2022.

(vii) 20x20 Initiative Program: Through the 20x20 Initiative, countries will work with leading research centers and the private sector to restore degraded lands, which will result in carbon capture, reforestation, more productive agriculture, avoided deforestation and improved livelihoods. Ecuador will participate in this initiative with a budget of U$S 900,000 funded by the World Resources Institute. This initiative will contribute to the project with lessons learned on restoration practices in degraded lands.

ii) Baseline initiatives led by the Ministry of Agriculture and Livestock (MAG)

(i) Agricultural Public Information System of Ecuador (SIPA)[16]: The MAG has developed this information system to provide statistical and geographic information of the agricultural sector. Some indicators are prices, foreign trade (agricultural and agro-industrial), crop yields, land use estimates etc. MAG has mapped the highly degraded soils (*cangahuas*) in Pichincha and Imbabura allowing them to define activities of soil restoration.. The project will look to coordinated actions between SIPA[17] (MAG) and SUIA (MAE) as the main information systems in Ecuador.

(ii) Catalyzing Inclusive Value Chains with Partnerships (DINAMINGA) (2016-2021): DINAMINGA aims at contributing to rural development by supporting small-scale farmers, from production to commercialization. The project will work with 20,000 families of small producers of cocoa, blackberries and golden berries. The project will strengthen the capacity of farmers' organizations to produce more and better quality food with higher value; train them in financial, administrative and business management; and facilitate alliances with private enterprises. It will incentivize public-private-producer partnership models. Some of the project locations are Chimborazo, Manabí or Imbabura. This project will be executed by the MAG (public investment of U$S 5.6 million) with support of the International Fund for Agricultural Development (IFAD) (loan of U$S 25,6 million). It provides a baseline of capacity- building in good agricultural practices and post-harvest, as well as diversification and access to new markets.

iii) Development of Capacities in Soil Information for the Sustainable Management of Natural Resources in the Countries of South America. MAG participated in this regional FAO project supported by the Global Soil Partnership, which aims at improving national capacities on soil information. FAO and the countries developed the Global Soil Organic Carbon (SOC) map[18]. This previous SOC mapping will provide a basis for the baseline assessment of LDN indicators in Ecuador.

(iv) Technical Assistance for the Strengthening of the Surveillance of Agro-climatic Risks in Ecuador: FAO in coordination with MAG and the National Institute of Meteorology and Hydrology (INAMHI) will implement this project in Ecuador. It will promote the use of the Global Information and Early Warning System on Food and Agriculture (GIEWS)[19] and in particular, the Agricultural Stress Index System (ASIS)[20]. This project will allow institutions such as MAG, INAMHI or MAE to use these global tools in order to improve their capacities to evaluate agricultural risks due to droughts. Under the LDN target setting process, this information will contribute to the monitoring of droughts as a driver of land degradation.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project

The **project objective** is to promote SLM/SFM for the recovery and restoration of prioritized landscapes that sustain environmental services and food security and establish support mechanisms for achieving and monitoring LDN

Through its three components, the project will promote a scenario for wide adoption of SLM and restoration strategies and practices in priority intervention landscapes, applying the LDN hierarchy *avoid - reduce - recover* as to improve production systems of small rural producers and thereby sustain and restore the range of ecosystem functions generated. Appropriate SLM practices and systems will be selected and adapted to the specific biophysical and socioeconomic situations of the land users through a participatory capacity development process with the range of stakeholders and service providers. Uptake will be promoted and continued in the long term through the development of support mechanisms and incentives, as well as by policy instruments and inter-sectoral planning tools at different levels. Additionally, the impact of these practices on ecosystem services and local livelihoods will be evaluated, monitored and documented to provide a knowledge base for continued support services, wider scaling out and country reporting on its LDN achievements.

The project strategy will draw upon *UNCCD building blocks for achieving LDN* at the country level[21].

LDN target setting approach: the building blocks

Leveraging LDN: LDN target setting is not a stand-alone process, coordination across ministries and sectors involved in land management is essential. In Ecuador LDN issues have been led by the Ministry of the Environment (MAE), as the focal point of the UNCCD convention. MAE is seeking to integrate these concepts in other ministries, such as the MAG but a lot of further work on inter-institutional coordination needs to be achieved.

Assessing LDN: Assessing the current state of land degradation and its drivers is the basis for setting LDN targets, making informed decisions on what action to take, and tracking progress. LDN indicators will be assessed at the national level and a monitoring system on LDN indicators and implementation will be integrated in national land use monitoring systems. SDG indicator 15.3.1 will be reported through the monitoring of the UNCCD minimum set of sub-indicators (land cover and land cover change, land productivity and SOC) The national monitoring system will record all national SLM contributions towards LDN with a harmonized approach and metrics. Links will be made with the SDG monitoring, in particular: SDG 13, SDG 2, SDG15 and SDG 6.

Setting LDN targets & associated measures: LDN targets define a country's ambitions in terms of combating land degradation. LDN measures comprise a whole range of interventions to avoid, reduce or reverse land degradation. The project will support the establishment of a decision support system for LDN target-setting and planning to address degradation and associated impacts such as drought, flooding and vulnerability to climate change. It will also undertake an assessment of landscape specific SLM practices and land use systems and will demonstrate the application of the LDN approach on the ground within selected landscapes and with the range of actors.

Achieving LDN: An enabling environment is a prerequisite for achieving LDN, for integrating the LDN concept into national policies and identifying transformative LDN programmes and projects. The project will mainstream SLM and LDN at national and local levels into policy instruments and strategic territorial planning processes and will develop required support and incentive mechanisms for a shift from unsustainable to sustainable land use and

production systems.

Component 1: *Strengthening the Enabling Environment for LDN Monitoring and Target-Setting along with the Promotion of SLM/SFM in Prioritized Landscapes*

Component 1 will be achieved through two expected outcomes:

Outcome 1.1: LDN baseline assessed and monitoring systems in place

LDN data indicators will be collected at the national level in order to assess the land degradation baseline in the country. This will be done by following the UNCCD scientific conceptual framework for LDN[22]. Data will be collected through multiple sources such as official statistics and Earth observation, land use and management practices and surveys. This will provide a scientific basis to define national LDN targets and will also allow to develop an inter-sectoral strategy and intervention to achieve and monitor progress towards the LDN targets. Likewise, a participatory assessment and documentation of adapted SLM practices and land use systems that avoid/reduce land degradation and restore ecosystems and sustain ecosystem services will be carried out. The information generated in these complementary actions, will be integrated in the monitoring system contributing to the LDN decision support system, as well as to the evaluation of actions implemented in favor of LDN targets achievement.

Outcome 1.2 Inter-institutional coordination enhanced throughout the LDN target setting process

Outcome 1.2 will be achieved by developing a capacity building gender-balanced program for LDN target setting, implementation and monitoring for national and local government staff and farmers.

At the local level, the project will focus on communities and government institutions in the selected project intervention areas, although keeping in mind that the goal of the project is to upscale its experience at the national level. Capacity development processes will facilitate the setting of an LDN decision-support system (DSS) with relevant national and local stakeholders. The project will base efforts in the lessons learned and actions implemented by the *Core Group for the Land Degradation Assessment,* i.e a technical cross-sectoral platform, which discusses and makes decisions on land degradation.

Outcome 1.3 LDN mainstreamed in selected national policies and commitments

Outcome 1.3 will support LDN and SLM mainstreaming in strategic policy and territorial planning instruments, including the design of the LDN National Action Plan, which will set the phases and activities to achieve targets. LDN indicators will be agreed among all key actors aligned and in synergy with other national commitments (for example NDCs, biodiversity, food security, poverty reduction). This outcome will set the strategy and roadmap for the LDN cross-sectoral commitment at national level.

Component 2: *Demonstrating the LDN approach and promoting sustainable livelihoods through avoidance/ reduction of land degradation, restoration of ecosystems, and SLM/ SFM practices in prioritized landscapes.*

Component 2 will be achieved through 1 outcome:

Outcome 2.1: Improved land management practices selected and implemented in forest, paramo and agricultural intervention areas to avoid and/or reduce land degradation and restore ecosystem services

Indicator LD-3.2.:

4,000 ha of forest and paramo areas restored to maintain ecosystem services

Indicator LD-4.3:

8,000 ha. of production landscapes under SLM

Indicator LD-4.4: 25,000 ha of high conservation value forest loss avoided

Indicator CC-6.1: 12,170,020 tCO2e sequestered or avoided due to SLM practices and avoided deforestation

Project indicator 1: Land productivity and livelihood of smallholders improved through SLM/SFM (in USD, to be defined during full project preparation)

Outcome 2.1 will support LDN implementation plans in forest, paramo and agricultural areas (croplands and pastures). These plans will avoid and reduce further land degradation and promote ecosystem restoration and rehabilitation through sustainable practices and production systems, working as demonstration activities for SLM/SFM upscaling.

In order to achieve this objective, two combined strategies have been defined: a) the implementation of ecosystem restoration practices such as the rescue, sowing and propagation of native plants, construction of protective structures for erosion control through soil and water conservation on hillsides, and b) the implementation of sustainable use activities that recover/maintain attributes and ecosystem functions. This will include soil conservation techniques (e.g. terraces and crop rotation), production without burning, agroecology, recovery of highly degraded lands (*cangahuas*), improvements in grazing and pasture management techniques, use of native agrobiodiversity and agroforestry systems etc. These SLM practices will increase biomass, soil organic carbon content

and biodiversity, improve water flow and quality, and improve species and systems productivity, thus increasing the resilience of production systems and ecosystems, and reducing the vulnerability of rural livelihoods in the project intervention area. The project will also support the diversification of productive systems by encouraging long-term adoption, productivity increases and better rural livelihoods.

Component 2 will be implemented with a strong gender approach: landscape management activities will target women-led farms, as well as capacity development and participatory LDN assessment. The project will consider (i) practical gender needs, improving the condition of women through access to resources, services and opportunities, and (ii) empowering women to make informed decisions and be represented in decision-making bodies.

Component 3: *Promoting innovative incentives mechanisms that encourage adoption of SLM/SFM practices in agricultural and forest landscapes.*

Outcome 3.1: SLM/SFM mainstreamed in value chains and operations of existing financing mechanism and rural services

Indicator 3: 6000 direct beneficiaries with improved access to services, 40% are women

Outcome 3.1 will design and promote innovative financing, incentive mechanisms and agricultural extension services that encourage SLM/SFM practices in agricultural and forest landscapes and mainstream the LDN. Existing credit lines and incentives mechanisms will be strengthened to support SLM/SFM uptake. The LDN monitoring systems and well-defined LDN metrics will represent the basis for integrating LDN in financial institutions evaluating credit/incentives access and measuring its performance. This component will develop local networks with the participation of 6000 small farmers in the selected provinces, to be trained by the *MAG National Extension Service.* Training modules and field guides will be developed to strengthen the participation and association capacities of small- producers.

Further, outcome 3.1 aims to create market opportunities by reinforcing relevant products and their value chains such as coffee, cocoa, Andean fruits, quinoa, maize, potato, medicinal plants, among others. The project will implement life- cycle assessment through EX ACT Value Chain. Targeted value chains will be analyzed. Differentiated markets will be targeted for SLM/SFM-friendly practices[23]. An economic feasibility analysis will be conducted to further refine the baseline description by CEO Endorsement.

Component 4: *Project Monitoring, Evaluation and Lessons Learned*

In addition, GEF incremental financing will support Component 4 which includes the conduct of mid-term and final evaluations, the monitoring of the Global Environmental Benefits, the development and dissemination of knowledge management products and the development of a strategy for communication and dissemination of information, in order to share experiences and promote uptake of successful lessons at local, regional and national levels. The strategy for this component will be to promote an adaptive management of the project through a continuous monitoring and evaluation process that generates adequate and timely information on its performance. Additionally, Component 4 will focus on a replication process, scaling and sustainability of actions through the systematization and dissemination of tools, information and lessons learned from the project.

4) Alignment with GEF focal area and/or Impact Program strategies;

The proposed project is aligned with the GEF Land Degradation focal area: *LD-1: Support on the ground implementation of SLM to achieve LDN* and *LD-2: Creation of an enabling environment to support the implementation of voluntary LDN targets*. In regard to LD 2, GEF financing will be used to develop the policy, legal and institutional mechanisms, to improve understanding of drivers and adapted solutions to manage increasing pressures on limited resources and mainstream the LDN hierarchy (avoid, reduce, restore) in national programs, set national targets and monitor progress. In regard to LD1: GEF financing will be used to strengthen national and local capacities to scale up SLM practices in crop, grazing and forest lands supported by participatory landscape planning and management and monitoring of the multiple socioeconomic and environmental benefits as a basis for replication nationwide and for creating a dynamic knowledge system.

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

Overall incremental reasoning:

GEF incremental financing will support the implementation of an integrated landscape approach at policy, field and market levels to achieve LDN in Ecuador. LDN target-setting is a new and complex objective that requires GEF support, otherwise MAE and MAG actions would be dispersed and in some cases contradictory at local level. LDN requires this landscape approach that consider productive lands and conservation zones to deliver adequate results with local participation, SLM tools and planning schemes. MAE and MAG co-financing is key to accomplish LDN target and support its implementation. Estimated co-financing will be around U$S 43 million, both recurrent and mobilized. The incremental reasoning is further detailed below:

Component 1

Component 1 will address Barrier #1a described above by generating information and applying science-based tools to assess the impacts of SLM/SFM practices in tropical ecosystems, and generating LDN data for the country's target-setting process. National and local institutions will be able to understand the synergies between biodiversity, carbon, water, climate change and how local livelihoods are affected or benefited by SLM practices.

Component 1 will also help overcome Barrier #1b through the following outputs: (i) capacity building for LDN target setting, implementation and monitoring; (ii) establishment of a decision support system for LDN target setting; (iii) supporting LDN mainstreaming into national policies and international commitments (i.e the National Agricultural Plan and the Soils Management National Plan); and (iv) design of the National Action Plan for LDN, which will set up the phases and activities to achieve the targets and indicators in synergy with other national commitments (for example NDCs, biodiversity, food security, poverty reduction).

In Component 1, GEF incremental financing will be used to develop the LDN target-setting process and the M&E system, which includes the participatory assessment of SLM practices. The GEF financing will be also used to strengthen inter-institutional coordination, create capacities and support LDN mainstreaming in the enabling environment. Co-financing will be provided by MAE and MAG as public recurrent investment within the *Unique System of Environmental Information (SUIA)*, *National Forest Monitoring System (NFMS)* and the *Agricultural Public Information System (SIPA)* since the target-setting process and the LDN monitoring system will be integtrated in national information systems. MAE, through its program *Financial instruments and land use planning to reduce emissions from the Deforestation Program* will provide planning management tools and a forest monitoring system that is a fundamental information source for the definition of LDN goals. Finally, MAE and INAMHI will adapt the *Agricultural Stress Index System (ASIS)* to contribute to monitoring drought as a driver of land degradation. Co-financing budget will be further refined during full project preparation.

Component 2:

Component 2 will address Barrier #2 (i) strengthening the agricultural extension services as a strategy to integrate and promote SLM/SFM practices and contribute to the transformation and sustainability of agricultural systems and (ii) promoting SLM/SFM practices in prioritized landscapes with the aim of generating global environmental benefits in terms of improved land cover, enhancement of soil carbon and productivity.

In Component 2, GEF incremental financing will contribute to generate Global Environmental Benefits in terms of production and forest landscapes under SLM, restoration and conservation mechanism. Co-financing in Component 2 will be provided by MAE through the following projects *National Restoration Plan of Degraded Ecosystems*; *Integrated Management for the Fight against Desertification*, L*and Degradation and Adaptation to Climate Change* (GIDDACC); *Implementation of SLM Practices and Capacity Building in Communities affected by Degradation* and *Financial instruments and land use planning to reduce emissions from the Deforestation Program*. MAG will co-finance through its public financing – loan projects *Rural Good Living Program* and *Catalyzing Inclusive Value Chains with Partnerships* (DINAMINGA*)*. Other projects will be further described during full project preparation.

Component 3:

Component 3 will address Barrier # 3, by defining incentives and mechanisms that strengthen the implementation of SLM/SFM practices among beneficiaries, local actors, financial institutions and associations. Additionally, Component 3 aims at improving market access of the producers living in project intervention areas.

In Component 3, GEF incremental financing will support the strengthening of incentives and services for promising value chains. MAG will co-finance Component 3 through its public financing – loan project DINAMINGA. Other initiatives on innovation and extension services, developed by INIAP, will be further described during full project preparation.

Component 4:

In addition, GEF incremental financing will support component 4, which includes (i) the conduction of mid-term and final evaluations, (ii) the monitoring of the Global Environmental Benefits, co-benefits and costs of SLM/SFM, (iii) the development and dissemination of knowledge management products and (iv) the development of a strategy for communication and dissemination of information, in order to share experiences and promote uptake of successful lessons at local, regional and national levels. MAG and MAE will co-finance this component through its public financing.

6) Global Environmental Benefits

The project will deliver the following Global Environmental Benefits and co-benefits:

- Core Indicator 3: Areas of land restored: 4,000ha

Indicator LD-3.2.: 4,000 ha of forest and paramo areas restored to maintain ecosystem services

- Core Indicator 4: Area of landscapes under improved practices (hectares; excluding protected areas): 33,000ha

Indicator LD-4.3: 8,000 of landscapes under SLM in production systems

Indicator LD-4.4: 25,000 ha of high conservation value forest loss avoided

- Core Indicator 11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment: 6,000 direct beneficiaries

Indicator 11: 6,000 direct beneficiaries with improved access to incentives and services (40% women)

- Core Indicator 6: Greenhouse gas emission mitigated (tCo2e)

Indicator CC-6.1: 12,170,020 tCO2e sequestered or avoided due to SLM practices and avoided deforestation

- Project Indicator 1: Land productivity and livelihood of smallholders improved through SLM/SFM (in USD)

7) Innovation, sustainability and expansion potential

Innovation: The project is especially innovative in four dimensions: i) LDN capacity development, ii) LDN targets and implementation of SLM/SFM practices in prioritized landscapes, iii) mainstreaming at policy level and iv) use of technological tools and open software.

The LDN Monitoring System will build up a database of LD and SLM to track results at national and local levels. The multi-sectoral approach for effective governance (MAE- MAG- local governments GADs) will address agricultural productivity, forest management and ecosystem restoration. Capacities will be strengthened in the use of relevant technological tools, developed and supported by FAO with partners, such as the LADA-WOCAT tools and database and ASIS and EX-ACT tools , and the use of Open Foris will be adapted to the country needs.

FAO will provide technical guidance in strengthening the LDN enabling environment by supporting agro-environmental policies, linking with other SDGs, applying voluntary guidelines on responsible tenure (VGGT) and on sustainable soil management (VG-SSM) and responsible agricultural investments (RAI).

Sustainability: This project is aligned with the three pillars of sustainability: i) Social sustainability: the project focuses in strengthening people´s capacities and aims to upgrade their knowledge on SLM/SFM practices. It will address the synergies between biodiversity, carbon, water and how local livelihoods are affected or benefited by new practices and approaches. Full project design will follow and respect the guidelines of *Free Prior and Informed Consent* as set by the FAO Policy and national legislation. Gender mainstreaming is a core part of the project design, given the key role of women in decision-making process and land management activities. ii) Environmental sustainability: the project aims to implement SLM/SFM practices that help to improve livelihoods and to contribute to LDN in the project intervention areas. The project will promote restoration and rehabilitation of ecosystems and the diversification of productive systems supported by strategies and mechanisms that could be applied to ensure long-term adoption and sustainability. iii) Economic sustainability: the project will promote the generation of incentives, work to strengthen production strategies and sustainable value chains and incentivize access to new markets to allow smallholder farmers to sell their products including traditional varieties and foods for improved nutrition and income; in this way, the project will address the barriers that affect productivity and commercialization.

Scale-up: Inter-sectoral LDN governance is expected to generate large-scale changes through the replication of methodologies, policies, instruments and clear practices. There exists a political will for collaboration, participation and implementation of LDN targets.

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Ibid.

Moderate degradation means that in these areas degradation can be reversed by complete control and rehabilitation with considerable effort. Almost half of the uadorian surface is within this category and located next to the zones of influence of roads, productive areas, most of the páramos and shrub vegetation of the high eas.

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ttps://www.unccd.int/sites/default/files/documents/18102016_LDN%20country%20level_ENG.pdf

22] UNCCD https://www.unccd.int/sites/default/files/documents/2017-08/LDN_CF_report_web-english.pdf

3] EX-ACT Value Chain is a multi-agent based tool appraising input supply, production, transport, processing and using numerous indicators. Being multi-impact esigned, it gives performance on climate mitigation (GHG emissions, CFP, economic return of climate mitigation), climate resilience and socio-economic erformances (value added, income and employment generated) of food VC, either for the current situation of the chain, or for an upgrading project scenario tp://www.fao.org/tc/exact/ex-act-tool-for-value-chains/es/

1b. Project Map and Coordinates ℹ️

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

Project intervention areas:

Area 1: *Andean forest and interandean valley of Imbabura and Pichincha* (175,641 ha), inter-andean landscapes in the limit between Pichincha and Imbabura.

Area 2: *Coastal Mountain Range of Manabí and Santa Elena* (288,047 ha), located in the Ayampe River Basin and surroundings of Machalilla National Park (Santa Elena North Province, south of Manabí, northeastern Guayas).

Area 3: *Paramos of Chimborazo and Carihuairazo* (228.926 ha), located at the southeastern front (Chimborazo, Bolívar, and Tungurahua).

<u>Figure 1:</u> Map of project intervention areas

(Sources: Esri, GEBCO, National Geographic, Garmin, HERE, Geonames)
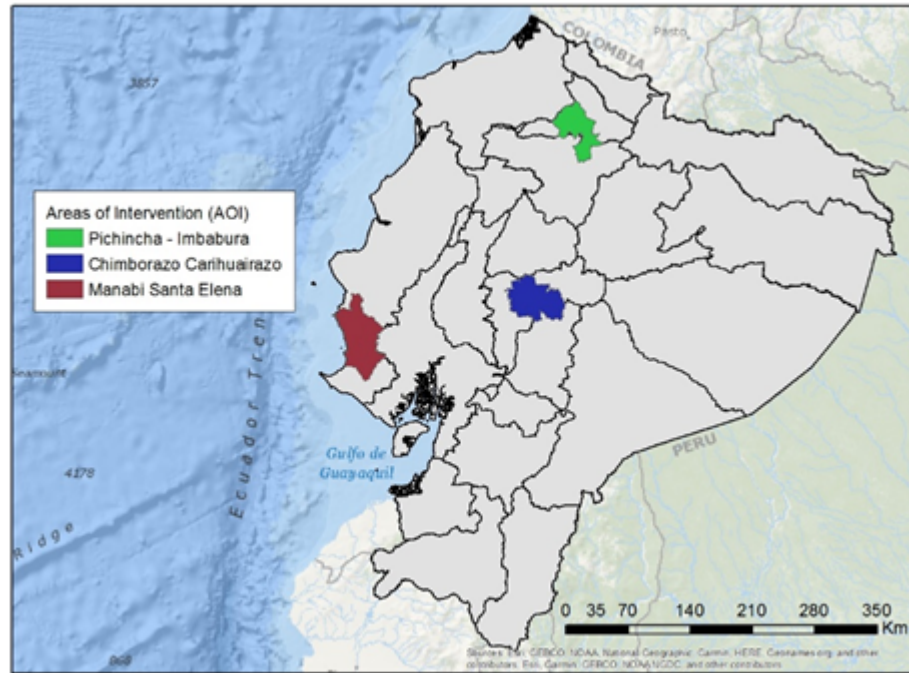
2. Stakeholders ⓘ

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities

If none of the above,please explain why:

At local level, project beneficiaries and key stakeholders are: male and female smallholder farmers, indigenous groups and local communities. The project will promote the participation of young people to securing the replacement generation, as well as ensure women's participation to secure gender equality in activities and decision-making processes. At second level, key stakeholders are the social organizations that have worked in the communities and have already acquired recognition and prestige. These organizations can serve as catalyzers to facilitate the dialogue between the communities and the academic and governmental agencies that will participate in the project. CONDESAN is a key CSO with experience in biodiversity monitoring systems, and ecosystem restoration in the Andes. CONDESAN has participated in this PIF design phase. At third level, academic actors from universities, research centers and NGOs will be part of the project for results dissemination, capacity development and provision of technical support. At national level, governmental agencies, MAE and MAG, and their associated institutions will play a key management role to implement the activities in the local and community level, as well as at the policy level.

The table below illustrates the list of main institutional stakeholders. A stakeholder mapping exercise will be conducted by CEO endorsement to further describe the list below:

Institution	Role	Responsibilities in the project
Ministry of Environment (MAE)	GEF Operational Focal Point and National Environmental Authority	Responsible for project execution and overall coordination. MAE is also the Focal Point to the UNCCD.
Ministry of Agriculture and Livestock (MAG)	Implementing partner	MAG with its local and territorial representatives will support project activities on the field. MAG will support the LDN mainstreaming process in national policies and planning processes.
National Institute of Agricultural Research - INIAP	Governmental Institution	INIAP will support through technical support, expertise regarding SLM/SFM practices and crops information.
Secretary of Water - SENAGUA	Governmental Institution	SENAGUA will provide expertise on water use and management, as well as on implementation of best practices related to water sources conservation.
Decentralized Autonomous Government (GADs)	Local Authorities	GADs will provide support in the organization of producers on activities related to implementation of SLM/SFM practices. Support in territorial activities of the project and development of local planning tools.
FAO	GEF Implementing Agency	Provision of technical assistance on LDN target setting and monitoring systems, SLM/SFM practices and decision support for scaling out, land planning and integrated landscape management approach, value chain, market access and knowledge management and monitoring and assessment tools. Support of methodologies according to international standards. Support and monitoring of project implementation.
Consortium for the Development of the Andean Ecorregion - CONDESAN	Executing partner	CONDESAN will provide technical support regarding the restauration of ecosystems and landscapes.
Local communities including indigenous communities	Beneficiaries	In overall, all project activities need the beneficiaries to be part and collaborate with the implementation, replication of practices, among others.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

3. Gender Equality and Women's Empowerment ⓘ

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The project will be gender-focused by : i) Investing in women's technical and leadership skills, so they can better participate in project activities, ii) Collecting sex- and age-disaggregated data, and the identifying gender-sensitive indicators for gender-based impact assessment, iii) Integrating a representative number of women and young people into project activities and decision-making processes; iv) supporting women's self-organization to facilitate their participation in project activities. At least 40% of female-led households will be project beneficiaries,

In addition, the project will engage women in the following actions: a) assessing local capacities, b) the diversification and sustainable intensification of production, c) the identification of new income generating activities, d) promotion of market linkages and SML/SFM activities.

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

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement ⓘ

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The project will build conditions for small-scale and family farmers to participate in local and national markets. Partnerships will be fostered between producer associations and local providers, collection centers, and agricultural companies. The public-private associations will be supported in providing incentives for SLM-friendly production. The role financial institutions in granting loans and financial support to organizations will be considered, as well as co-financed interventions with other associations. The private sector role will be further described by CEO Endorsement.

5. Risks

Indicate risks, including climate change, potential social and environmental 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 format acceptable)

Probability	Potential risks	Mitigation measures provided
Low	**Environmental:** Extreme climate conditions adversely affect restoration practices and SLM.	SLM practices reduce the vulnerability of the systems to extreme weather events. For example, SLM practices will be carried out in key areas that regulate water flow.
Low	Accelerated land degradation and biodiversity loss due to drastic climate change.	Implementation of existing adaptation strategies to climate change. Attention to changes affecting biodiversity resources, land and forests.
Medium	**Social:** Problems in land tenure regularization makes it difficult for landowners to access incentives and other schemes that promote the adoption of SLM practices.	The project will not condition the participation of farmers in project activities despite not having regularized lands.
Medium	High migration rates at intervention sites affect the ability of communities and farmers to adopt SLM practices.	The project will be implemented taking into account information on temporary and permanent migration cycles and other local work and organization conditions. The intervention sites will be prioritized considering migration as a local social parameter.
Medium	**Political/Institutional:** The authorities and technicians who are trained by the project do not continue in relevant functions.	The project will prioritize capacity-building processes aimed at permanent officials and members of local communities. In addition, project activities will generate tools for the implementation of the SLM practices permanently available to relevant actors and authorities.
Medium	Low local technical capacity at different levels of work	The project will pay special attention to maintain a continuous process of capacity building through exchanges of experiences and training to the technicians of the projects participating institu..

		tions.
Medium	National and local development programs that discourage the adoption of SLM practices in project intervention areas.	The project will work with the Ministry of Agriculture and Livestock, and local governments to influence in the implementation of national agricultural programs in the project intervention areas through information, tools, training and dialogue processes.
Medium	**Economic/Financial:** Market fluctuations affect the gains in sustainable value chains that are promoted by the project	Market analysis will be carried out to help the ventures articulate to the markets under advantageous conditions. The project will offer technical assistance and training to producers and marketers of prioritized value chains, to face the market challenges that could arise.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The Ministry of Environment (MAE) will be the main executing partner. The general coordination of the project will be led by MAE through the Undersecretary of Natural Heritage and the Undersecretary of Climate Change, and MAG, through the Undersecretary of Agriculture and the General Coordination of Agricultural National Information (CGINA). MAE, as GEF Operational Focal Point and national environmental authority will establish a **Project Steering Committee (PSC)** comprised of the highest level authorities of MAE, MAG and FAO.

While specific Terms of Reference will be jointly agreed upon by the aforementioned representatives, the main role of the PSC will be to ensure policy alignment, operational consistencies, intra-institutional coordination, and maximum complementarities among relevant actors, programmes and Ministry based operations. A **Project Management Committee** is also proposed to support the **Project Execution Unit** that includes the technical team.

Furthermore, during the initial project design stage a series of preliminary meetings will be conducted with these agencies representatives, project proponents and relevant donors, and baseline partners, to collectively identify areas of complementarity, and/or joint collaboration, but most importantly, to agree and define, in a collective and practical manner, the optimal coordination arrangements between this project and relevant on-going initiatives.

On the other hand, the GEF has financed other initiatives in Ecuador that are underway. Project activities will be coordinated and their lessons learned will be considered in the project:

GEF ID 4775(FAO): *Promotion of climate-smart livestock management, integrating the investment of land degradation and reducing the risks of desertification in vulnerable provinces*. This project promotes the management of sustainable livestock, integrating the reversion of land degradation and the reduction of the risk of desertification in vulnerable provinces. It seeks to reduce soil degradation and increase the capacity to adapt to climate change and mitigate Greenhouse gas emissions (GHG), through the implementation of inter-sectoral policies and sustainable livestock techniques. Lessons learned from this project will be considered for the baseline of SLM practices for livestock management that will contribute mainly to the Component 2. This project overlaps with the project areas in Imbabura and Pichincha.

GEF ID 4922 (FAO): *Support in the decision making process for the scaling out and mainstreaming of sustainable land management*, executed by FAO. This project carried out the National Assessment of Land Degradation which determined that the main causes of degradation in agricultural areas are related to overgrazing, poor management of crops and pastures, urban development and overexploitation of the forests. The SLM best practices identified in this project and the local assessments serve as reference to be scaled to other areas of the country, especially through Component 2 and Component 3 through its experience on multiple actors' articulation that will apply in all the intervention areas.

The bi-national GEF project executed by CONDESAN: GEF ID 4750 (UNEP): *Multiplying the environmental and carbon benefits in high Andean ecosystems*. Its objective was to maintain and improve biodiversity and the benefits derived from carbon in the high Andean ecosystems of Ecuador and Peru. Its activities focused on the research for validating the impacts of SLM/SFM practices on local livelihoods, biodiversity and carbon dynamics, the integration of SLM practices in planning tools and governance platforms and the dissemination of lessons learned and replications. This experience developed tools and knowledge on forest restoration and monitoring of SLM practices that will support the project in the design of information systems required at the national level for both, the assessment of degradation and the setting of LDN goals. The Component 1 will use the lessons learned on monitoring systems developed by this project and the SLM practices evaluated at farm level for Component 2. In addition, this initiative developed partnerships with local governments, local NGOs and producer association in the zone of Chimborazo-Carihuairazo and Pichincha-Imbabura.

GEF ID 10030 (UNEP): *Support the United Nations Convention to Combat Desertification (UNCCD) 2018 National Reporting Process - Umbrella IV*. Its objective is to support countries to establish solid national reporting and monitoring systems for the effective performance of reports (PRAIS) to the UNCCD. It will provide capacity building for the MAE and will serve as a basis that are key processes in Component 1 related to the definition of LDN targets in Ecuador. This project will start in 2019 and FAO will be the executing agency, thus contributing to the PPG phase. The project will create a coordination space for information generation at national level where multiple actors will be involved.

GEF ID P14345 (CAF): *Adaptation to climate change in water resources in the Andes* (AICCA). The regional GEF project is being executed by CONDESAN with the leadership of the MAE. Its objective is to generate and share information and relevant experiences for adaptation to climate change and variability, useful for formulation of policies in selected sectors and to pilot investments in priority areas in the four Andean countries, In the case of Ecuador the project is focused on medium and small hydroelectric power sector. In Ecuador the project has an important focus on biodiversity and for that will develop methodologies, tools that allow to mainstream biodiversity in the design and implementation of adaptation measures. In the prioritized watersheds, the project will promote the conservation of ecosystems services related to water through adaptation measures based on SLM/SFM practices. The project started in 2018

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

National Development Plan 2017-2021 Through the implementation of ecosystem restoration and conservation practices, the project contributes to objective 3 of component 1: *Guarantee the rights of nature for current and future generations.* The implementation of sustainable production practices and support for sustainable value chains contribute to objective 6 of *component 2: Develop productive and environmental capacities to achieve food sovereignty and rural Good Living.*

National Climate Change Strategy: The project promotes ecosystem-based adaptation (EBA) through the recovery of degraded systems, thus contributing to objective 5 of the Strategic Line of Adaptation to Climate Change of the ENCC: *Conserve and sustainably manage the natural heritage and its terrestrial ecosystems and marine, to contribute their capacity to respond to the impacts of climate change.*

National REDD + Action Plan: The project has a great convergence with the measures proposed in the ENREDD +. The project will work directly on measure b of strategic component 1: *Territorial organization and zoning of the agricultural and forestry frontier,* through local prioritization and the adoption of local planning instruments that incorporate SLM and restoration objectives. The adoption of sustainable productive practices, contributes to the measures of a) *agricultural productive reconversion* and b) *improvement of productivity and promotion of the adoption of good agricultural, forestry and aquaculture practices*; both part of component 2. The project will work on improving forest management practices in the intervention sites, thus contributing to Strategic Component 3: *Sustainable forest management.* Additionally, in the prioritized landscapes, means of conservation and restoration will be implemented, contributing directly to the goals of Strategic Component 4: *Conservation and restoration.*

UNCCD-PRAIS: The project will contribute to the improvement of the state of affected ecosystems, combat desertification or land degradation, specifically supporting the following objectives: *SO1 - promote the sustainable management of land and contribute to neutrality in land degradation; SO2 - to mitigate, adapt to and manage the effects of the drought; SO3 - to increase the resilience of vulnerable populations and ecosystems and SO4 - to improve the living conditions of affected populations and to generate Global Benefits through project implementation.*

UN Climate Change Convention-Biennial Update Report (BUR): Ecuador is a signatory to the United Nations Framework Convention on Climate Change and forms part of the Non-Annex I group of countries, which is why it does not have mandatory commitments for greenhouse gas reductions. Nonetheless, aware of the adverse effects of climate change and in strict respect to the national policies, Ecuador has implemented a variety of mitigation and adaptation policies at the national level that aims to implement the national development model and are based on Good Living (Buen Vivir) or "*Sumak Kawsay*". This model commits the country to defend the right of its population to live in a healthy environment and respect the rights of nature.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The project will ensure dissemination of information with relevant actors. Existing information generated from public and private sector institutions (knowledge management for the project) and communal organizations (traditional knowledge management) will be taken into account. This information, together with the outputs generated by the project will be available to relevant stakeholders, including decision-makers at local, regional and national levels. In addition, the communication strategy will transmit the use of Platforms and technological tools, such as LADA.WOCAT the UNCCD preferred database for SLM best practices reporting, that will be used to share successful SLM measures at the local level.

Finally, additional consultations will take place during the project preparation phase to examine and evaluate: (i) successful knowledge management experiences in other projects, (ii) obtain current feedback from stakeholder groups and possible beneficiaries groups (iii) determine how to best link the knowledge generated by other institutions and projects to the findings of this proposal.

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 with this template).

Name	Position	Ministry	Date
Ing. Pedro José Liut Jaramillo	GENERAL COORDINATOR OF ENVIRONMENTAL PLANNING AND STRATEGIC MANAGEMENT	Ministry of Environment (MAE)	4/5/2019

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

Land Coverage in Ecuador and project intervention areas