



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT

TYPE OF TRUST FUND: GEF TRUST FUND

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title:	Promoting sustainable and resilient landscapes in the central volcanic chain of Guatemala		
Country(ies):	Guatemala	GEF Project ID: ¹	9059
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5581
Other Executing Partner(s):	Ministry of the Environment and Natural Resources (MARN)	Submission Date:	July 20, 2015
GEF Focal Area(s):	Multifocal	Project Duration (Months)	84
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of parent program:	[if applicable]	Agency Fee (\$)	1,025,503

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
BD-1 (<i>Improve Sustainability of Protected Area Systems</i>); Program 1: <i>Improving Financial Sustainability and Effective Management of the National Ecological Infrastructure</i>	GEFTF	2,232,765	9,181,000
BD-4 (<i>Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/ Seascapes and Sectors</i>); Program 9 (<i>Managing the Human-Biodiversity Interface</i>)	GEFTF	2,702,821	11,095,000
LD-2 (<i>Generate sustainable flows of ecosystem services from forests, including in drylands</i>); Program 3 (<i>Landscape Management and Restoration</i>)	GEFTF	2,494,079*	10,245,000
SFM-1 (<i>Maintained Forest Resources: Reduce the pressures on high conservation value forests by addressing the drivers of deforestation</i>)	GEFTF	1,857,416	7,655,101
SFM-2 (<i>Enhanced Forest Management: Maintain flows of forest ecosystem services and improve resilience to climate change through SFM</i>)	GEFTF	1,857,416	7,655,101
Total Project Cost		11,144,497	45,831,202

* The project will be applying the STAR partial flexibility mechanism of GEF-6 resources: CCM STAR allocation (US \$2,000,000) is being channeled to LD for a total of \$2,770,000 for this focal area. Amounts allocated to the FSP including fees are shown in Tables D and E.

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: To mainstream biodiversity conservation and sustainable land management objectives into production landscapes of the Central Volcanic Mountain Range in Guatemala, contributing to the welfare of local populations and the delivery of multiple global environmental benefits.						
Project Components	Finan. Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Development of an enabling environment for the delivery of multiple global environmental benefits through	TA	– Farmers agree to adopt sustainable production practices that lead to the certification and non-certification of 72,390 hectares (ha) (these production practices will be	<u>Certified and non-certified agriculture/forest production systems</u> – Certification systems for agriculture and forestry production. – Improved marketing strategies and protocols for certified and non-	GEFTF	2,157,587 (BD: 1,000,000 LD: 450,000 SFM: 707,587)	8,873,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#).

³ Financing type can be either investment or technical assistance.

models of sustainable agriculture/forestry production and economic incentives derived from improved markets and ecosystem services.		<p>implemented through Component 2).</p> <ul style="list-style-type: none"> – Two (2) projects for payments for watershed services (PWS) that generate environmental benefits (conservation of biodiversity and forests) at the local level and contribute to the well-being of small landowners and farmers (the two PWS projects will be implemented in Component 2). – Two (2) projects for compensation for carbon sequestration and restoration certified and verified provide additional income to small landowners (the two projects will be implemented in Component 2). – Increase in small landowners and farmers' net income (beneficiaries differentiated by gender): a) Up to \$X per year resulting from PWS pilot projects and users' willingness to pay; b) US \$X/year, equal to X tons/ha/year of fixed carbon (forest and soil); c) Up to X% for agricultural and certified and non-certified agriculture/forest products (baseline and targets will be determined during the PPG). – Capacity of small producers and farmers increased by 15% (beneficiaries differentiated by gender) for the implementation of biodiversity-friendly production practices, SFM and SLM as measured through UNDP capacity development indicators (the baseline will be established during the PPG). 	<p>certified agricultural and forest products.</p> <ul style="list-style-type: none"> – Competitiveness incentive program (e.g., preferential buying from project areas, price premiums, and extension services) promote production of certified and non-certified products and increase income opportunities for small farmers derived from the adoption of biodiversity-friendly production practices. – Financial and profitability analysis compares the income from control group farms with income from certified project farms. <p><u>SFM incentives</u></p> <ul style="list-style-type: none"> – Carbon sequestration certification and verification program in place following the Clean Development Mechanism (CDM) methodological framework (e.g., AR-AMS0001; methodology will be verified during the PPG).⁴ – Incentives (e.g., PINPEP, other) in support of farmers implementing reforestation actions and the mix of native trees and agricultural systems to enhance environmental services (hydrological regulation, biodiversity habitat, carbon storage, and soil protection). <p><u>Payments for Watershed Services</u></p> <ul style="list-style-type: none"> – Payment system for watershed services in place that benefits users and providers. – Technical guideline for watershed-related payments. – Protocols and enhanced capacity of environment authorities for the monitoring of PWS project planning and implementation. – Benefit-sharing mechanism for watershed-related payments. <p><u>Capacity development</u></p> <ul style="list-style-type: none"> – Training program increases local knowledge and skills (up to 2,000 farms/community forests, beneficiaries differentiated by gender trained by project end) regarding: <ul style="list-style-type: none"> a) standards for certification of biodiversity- and forest-friendly 			
---	--	--	---	--	--	--

⁴ This approach is based on the successful experience using a CDM methodology and the sale of carbon credits in national markets under the GEF-UNDP Project 3590: *Mainstreaming biodiversity in the coffee sector in Colombia*.

			<p>production; forestry incentives; including carbon sequestration and compensation, and PWS-related methods, standards, and procedures.</p> <p>b) business management (e.g., business plan development and basic accounting) of certified and non-certified production, forestry incentives, and PWS; and</p> <p>c) monitoring of certified and non-certified production systems, forestry incentives, and PWS.</p> <p>– Participatory monitoring program to assess biodiversity conservation, SFM, and SLM.</p>			
2. Delivering multiple environment benefits by connecting core protected areas within sustainably managed production landscapes in the central volcanic chain in Guatemala.	TA	<p>– Strengthen ecosystem structure and functionality of forests in the central volcanic range in Guatemala through:</p> <p>a) 178,000 tCO₂-eq⁵ sequestered through restoration of 4,500 ha of degraded forests using native species, natural regeneration, and landscape management tools (biological corridors, forest enrichment, live fences, windbreaks, etc.) (tCO₂-eq target will be confirmed during the PPG).</p> <p>b) 34,792.22 ha of biological corridors connect agriculture /forestry production systems with protected areas.</p> <p>c) At least 30% reduction in deforestation (2,315.04 ha) in selected landscapes of the central volcanic range: 297,963 tCO₂-eq over a 7-year period (i.e., project duration).⁶</p> <p>d) 72,390 hectares (ha)</p>	<p><u>Ecosystem connectivity</u></p> <p>– Thirty one (31) community/municipal nurseries improve production and access to native germplasm for agroforestry and silvopastoral systems, soil stabilization, and contribute to connectivity of biological corridors in Component 2.</p> <p>– Conservation agreements with landowners (privately owned farms, communal forests, etc.) used for establishing landscape management tools (i.e., biological corridors, forest enrichment for conservation and firewood management, live fences, windbreaks, etc.), strengthening ecosystem connectivity and reducing deforestation in productive and natural landscapes.</p> <p>– SLM plans for the middle and upper sections of up to eleven (11) watersheds (274,593.17 ha) include measures to reduce soil degradation and contribute to enhance ecosystem connectivity.</p> <p>– Energy-efficient stoves program reduces firewood consumption and GHG emissions (20,000 to 25,000 tCO₂-e over a seven-year period) (tCO₂-e will be confirmed during the PPG).⁷</p> <p>– Production plans and protocols support the implementation of</p>	GEFTF	8,456,220 (BD: 3,700,558 LD: 1,925,314 SFM: 2,830,348)	34,775,750

⁵ Estimated using the FCPF Carbon Fund Methodological Framework (2013), which is the official methodology used by the Climate Change Division of the Ministry of the Environment and Natural Resources of Guatemala (MARN).

⁶ Baseline area = -1,609,021 ton CO₂/year for three REDD regions in Guatemala (Western region, Eastern central region, and Southern Coast).

⁷ Estimates of reduced GHG emissions were based on results reported by the GEF Small Grants Programme Nicaragua: Adopting Energy Efficient Cook Stoves and Sustainable Forest Management near the Cerro Apante Natural Reserve (Project No: NIC/SGP/OP5/CORE/CC/2011/17).

		<p>of certified and non-certified agriculture/forest production systems (including agroforestry systems in coffee landscapes)</p> <ul style="list-style-type: none"> – Stable populations of indicator species (mammals, birds, amphibians, and plants) as a result of enhanced connectivity facilitated by the biological corridors after seven years (baselines to be established during the PPG phase). – Improvement of the management effectiveness score of the target PAs by X % (measured by METT) within the pilot landscapes (baseline and target will be determined during the PPG). – Decrease in X% in the financial gap to cover basic management costs and investments in 5 MPRs as a result of new PA financing mechanisms (e.g., PES and sustainable tourism) (baseline and target will be determined during the PPG). – At least a 15% increase in the management and technical capacity of 80 PA officials, municipal officials, and local communities as measured by UNDP capacity development indicators (baseline will be determined during the PPG phase). 	<p>certified and non-certified sustainable agricultural and forestry production practices in project sites (private farms, community forests, etc.), while contributing to enhance ecosystem connectivity.</p> <ul style="list-style-type: none"> – Five (5) participatory management plans for Municipal Regional Parks (MRP) strengthen local management, surveillance and control, and administration (the PAs are identified in the text). – Six (6) proposals for the re-categorization of national-level PAs (one National Park and six Permanent Closure Zones), include technical feasibility studies considering current national-level categories of the National Park System - SIGAP (e.g., Forest Reserve and Natural Monument) (the PAs are identified in the text). – Financing mechanisms for the management of five (5) MRPs covering 14,611 ha implemented, including payment for ecosystem services (PES) and sustainable tourism. – Conservation and management program for three priority areas (4,610 ha) for the protection of species: municipal forests of Rafael Pie de La Cuesta, municipal forests of San Pedro, Department of San Marcos; and the Zunil MRP, Department of Quetzaltenango) (the baseline will established during the PPG, including the conservation status of six [6] national endemic species of amphibians and nine [9] sub-national endemic species of amphibians). <p><u>Capacity development</u></p> <ul style="list-style-type: none"> – Strengthened institutional capacity program for national and regional officials and field personnel (PA staff; environmental, forestry, and agricultural officials) to support the sustainable management and conservation of biodiversity in production landscapes, the use of SFM and SLM methodologies and tools, and the quantification and evaluation of reduced deforestation. – Development plans for 31 municipalities incorporate 			
--	--	---	--	--	--	--

			principles for biodiversity conservation, SFM, SLM, and their implementing measures. – Thirty-one (31) environmental/forestry municipal offices fully equipped and with skilled staff for control, surveillance, and reduction of threats to biodiversity, soils, and forests. – Training and logistical support provided to municipal environment authorities for implementing biodiversity conservation, SFM, and SLM, as well as their enforcement capabilities. – Municipal-level monitoring and enforcement systems facilitate decision-making and the assessment of SFM, SLM, and biodiversity benefits in two (2) landscapes in the central volcanic range, and articulated with the national monitoring systems.			
			Subtotal		10,613,807	43,648,750
			Project Management Cost (PMC) ⁸	GEFTF	530,690	2,182,452
			Total Project Cost		11,144,497	45,831,202

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here:

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
Recipient Government	Ministry of the Environment and Natural Resources (MARN)	In-kind	2,196,192
Recipient Government	Ministry of the Environment and Natural Resources (MARN)	Cash	4,828,289
Recipient Government	National Protected Areas Council (CONAP)	In-kind	10,787,906
Recipient Government	National Protected Areas Council (CONAP)	Cash	1,018,815
Donor Agency	Inter-American Development Bank (IDB)	Cash	10,000,000
Donor Agency	The Nature Conservancy (TNC)	Cash	500,000
Donor Agency	Fund for Conservation of Tropical Forests (FCA-Guatemala)	Cash	1,000,000
CSO	Private Natural Reserves Association (ARNP)	In-kind	8,000,000
CSO	Private Natural Reserves Association (ARNP)	Cash	5,000,000
GEF Agency	United Nations Development Programme (UNDP)	Cash	2,500,000
Total Co-financing			45,831,202

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^{a)}

GEF	Trust	Country/	Focal Area	Programming	(in \$)
-----	-------	----------	------------	-------------	---------

⁸ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Agency	Fund	Regional/ Global		of Funds	GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNDP	GEFTF	Guatemala	BD		4,935,586	444,203	5,379,789
			LD		2,494,079	224,467	2,718,546
				SFM	3,714,832	334,334	4,049,166
Total GEF Resources					11,144,497	1,003,004	12,147,501

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)⁹

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$250,000					PPG Agency Fee: \$22,499		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ¹⁰ (b)	Total c = a + b
UNDP	GEFTF	Guatemala	BD		119,461	10,750	130,211
			LD		47,205	4,249	51,454
				SFM	83,334	7,500	90,834
Total PPG Amount					250,000	22,499	272,499

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS¹¹

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	34,792.22 hectares
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	274,593.17 hectares

PART II: PROJECT JUSTIFICATION

II.1. Project Description.

II.1.1. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed.

1. Guatemala has a surface area of 108,890 square kilometers (km²), 34.2% (37,225.95 km²) of which is covered by forests. There are approximately 15 million people living in the country, 41% are classified as indigenous. The topography of Guatemala is highly varied, with a mountain range that spans the country from southeast to northeast and has 37 volcanoes along the length of the Pacific coast. Guatemala is considered to be one of the 19 "Megadiverse" countries by the Convention on Biological Diversity due to its high biological and cultural diversity. The country's altitudinal and microclimatic variations and its biogeographical position within the Americas (the country is situated along the border of the neotropical and neoarctic regions) mean that Guatemala has numerous habitats and is within an area of global biodiversity importance. Guatemala has the greatest number of ecological zones (14 Life Zones as per Holdridge) among the Central

⁹ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$100k for PF up to \$3 mil; \$150k for PF up to \$6 mil; \$200k for PF up to \$10 mil; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

¹⁰ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

¹¹ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

American countries, including: a) the mountainous ecoregions, which are considered a high conservation priority at the regional and global levels; b) the tropical forest of the Sierra Madre, which is also a high conservation priority; and c) the mixed Central America forests, which are considered vulnerable to threats and are categorized as a medium conservation priority.

2. The region of the country that contains the volcanic range is geographically situated on the Sierra Madre (also known as the Volcanic Mountain Range). The Sierra Madre extends approximately 280 kilometers (km) from the border with Mexico to the border with El Salvador and Honduras. This mountain range is characterized by important variations in altitude along its entire span (from 300 to 4,220 meters above sea level [masl] in the cone of the Tajumulco Volcano in San Marcos). There are 78 protected areas (PAs) in this region, which together encompass a surface area of 1,959.20 km². The PAs are distributed as follows: Cultural Monument (1), National Parks (NP; 5), Municipal Regional Parks (MRPs; 19), Spring Protection Forest Reserve (1), Private Nature Reserves (PNRs; 40), and Permanent Closure Zones (PCZs; 12). Only five of the 78 PAs have a management plan and correspond to PNRs.

3. The pine-oak forests in Guatemala cover approximately 20,106 km² (18.46%) and are concentrated at altitudes between 800 and 2,200 masl. Among these forests there is predominance of species of the genera *Pinus sp.* and *Quercus sp.* These genera are found in association with other species such as *Cupressus lusitanica*, *Liquidambar styraciflua*, *Alnus spp.*, and *Ostrya spp.* The understory generally contains species from the genera *Eugenia* and *Myrica*, and *Hedyosmum piper*. The pine-oak forests are home to a high level of biodiversity and serve as a refuge for dozens of globally important plant and animal species such as the Guatemalan fir (*Abies guatemalensis*), the horned guan (*Oreophaps derbianus*), the highland guan (*Penelopina nigra*), the resplendent quetzal (*Pharomachrus mocinno*), the golden-cheeked warbler (*Dendroica chrysoparia*), the azure-rumped tanager (*Tangara cabanisi*), and the pink-headed warbler (*Ergaticus versicolor*). In addition, 7.72% of the total area of the PAs of the region includes areas of the Pine-Oak Forest Ecoregion. Approximately 9.94% of the pine-oak forest in the country are protected through PAs of the Guatemalan System of Protected Areas (SIGAP).

Global environmental problem

4. According to the latest National Forest Inventory, Guatemala had a net loss of 38,597 ha of forest annually between 2006 and 2010, which is equivalent to a rate of 1% per year¹², 1,378 ha of which is attributed to the region prioritized for this project. A land use, land use change, and forestry analysis (LULUCF, National Forests Institute [INAB] methodology) determined that the greatest annual loss of forest cover was due to agricultural expansion and the non-sustainable use of the forests. In the case of the pine-oak forests, the main factors that have contributed to their loss and/or degradation include changes in land use (i.e., expansion of agriculture) forest fires, and use of the forest for fuelwood. In pine-oak forest landscapes it is common to find plant associations that include pure stands of oaks or pines, patches of oak mixed with other hardwoods, or just pine and cypress, as well as pine or pine-oak with agro-ecosystems of coffee, corn, and potatoes. According to the Forest Cover Map (2010) and Forest Cover Dynamic Map (2006 – 2010) of Guatemala, PAs that were established to protect pine-oak forest have also been affected. The PAs that experienced a loss of forest cover at rates between -1.0% and -4.0% are the Tacaná Volcano PCZ, Zunil MRP, Santo Tomás Volcano PCZ, Quetzaltenango-Saqbé MRP, and the Chicabal Volcano PCZ.

5. The causes leading to the loss of biodiversity in the Central Volcanic Mountain Range of Guatemala, which is the prioritized area for this project (7,179 km²), are directly related to the expansion of agriculture, livestock farming, the expansion of the mining and forestry industries, and illegal hunting, illegal logging, and forest fires. These activities affect large expanses of natural ecosystems and deplete and degrade the natural populations living within them. **These activities also contaminate the soil, water, and atmosphere, and are the primary factors driving the loss of forests, soil erosion and degradation, sedimentation, and the alteration of the waterways.** Historically the Guatemalan rural population has relied in great measure on agricultural production for subsistence. The National Forest Inventory (IFN) estimates that 98% of the human populations who live in the proximities of the forested areas practice some type of agricultural activity. Agricultural expansion implies a conversion of forested lands to agricultural lands that are primarily used for subsistence crops such as corn, beans, wheat, barley, fava beans, potatoes, vegetables, and fruit in the highlands and coffee, tomatoes, and fruit in the lowlands. The *minifundio* (farms less than 1 ha in size) predominates in the highlands, while there is a mix of

¹² Forest Cover Map of Guatemala 2010 and Forest Cover Dynamics 2006-2010, developed by INAB, CONAP, and the Universidad del Valle de Guatemala (2012).

minifundios and *latifundios* (farms greater than 50 ha) in the lowlands. The basic grains (e.g., corn, beans, wheat, and barley) are used 100% for local and regional consumption, the fruits that are cultivated serve as contributions to the regional economy, and crops such as coffee and vegetables are exported to more than 10 countries. Agrochemicals are commonly used (principally fertilizers) and many agricultural lands are located on surfaces with greater than 30% slope, where soil conservation methods are not practiced. The residues from agrochemicals are spread via runoff to the streams, rivers, lakes, and lagoons, thereby generating contamination due to excessive nutrients. Current non-sustainable agricultural practices have had a negative impact on forests, soil productivity, and biodiversity. In addition, minimal oversight and enforcement by environmental authorities, including weak surveillance and control of the PAs, have further contributed to promote environmental degradation in the region.

6. In Guatemala, people depend largely on the forest as their primary source of fuel. In rural areas, 95.3% of the population uses fuelwood as an energy source (2.7 cubic meters per person per year [m³/person/year]); while in urban areas 50% of the population depends on fuelwood as an energy source (1.0 m³/person/year). The use of firewood outside of the PAs is regulated through use permits; though use permits, the area covered by which has been reduced from an area of 22,060 ha in 2006 to 7,782 ha in 2010, with a volume of use that varied between 515,370 and 276,036 m³/year. This reduction suggests that there has been a decrease in the number of forest patches, likely fewer use permits requested, and as a result greater ease in illegal harvesting. Fuelwood represents 67% of the total wood extracted from forests; the total volume of illegal timber extraction is estimated to be 31.6 m³/year. The total annual supply of fuelwood is 17.96 million m³ and the demand is 27.98 m³; as such, to meet this demand more than 10 million m³ must be extracted. This is a higher rate than the forest can grow, and as a result the consumption of fuelwood at the national level is not sustainable.

7. The country’s is also experiencing accelerated soil degradation and a high level of dependence on agrochemicals to compensate for the loss of soil productivity. The Pacific slope in particular is subject to an increasingly marked process of erosion (710 tons per hectare per year [t/ha/year]); this is more than double the rate of soil erosion on the country’s Mexican slope (330 t/ha/year) and almost six times more than the Atlantic slope (122 t/ha/year). The rate of soil erosion for the Central Volcanic Mountain Range is estimated to be 452 million t/year. Thirty-one (31) municipalities within this region include semiarid (70.06 km²) and dry sub-humid (623.2 km²) environments, which include some of the most degraded lands in the region.

8. National climate change projections developed by the Guatemalan Ministry of the Environment and Natural Resources (MARN) indicate that the average annual temperatures in the country could increase between 0.5 degrees Celsius (°C) and 4°C by the year 2050 and the total precipitation could decrease. This would result in the expansion of semiarid areas, especially in the western region of the country, and intensification of the late summer phenomena or “dog days” (July through September). The forest resources that are the most vulnerable to variations in temperature are the coniferous forests, due to the potential expansion of the driest areas. Modelling performed for the different scenarios for temperature changes suggests that between 41,377 ha (0.38%) and 400,000 ha (3.67%) of the surface area of Guatemala will suffer severe alterations in the forest cover by the year 2050. It is estimated that more than 12% of the national territory is highly susceptible to desertification and more than 49% is subject to the direct effects of drought. The increase in temperature will also increase the probability of forest fires, which, according to the IFN, has affected up to 30% of the forests in the past. Guatemala has also been affected during the past two decades by an increase in the number of hurricanes, tropical storms, and torrential rains. This has brought consequences in terms of loss of forest cover in the highlands due to landslides, as well as the accelerated loss of soil.

9. **The long-term solution** is to mainstream biodiversity conservation and SLM objectives into productive landscapes of the Central Volcanic Mountain Range in Guatemala, thereby contributing to the welfare of local populations and the delivery of multiple global environmental benefits. However, there currently are two **barriers** that prevent this objective from being achieved.

1. Small farmers and producers lack the training and incentives to implement the sustainable production practices necessary to generate global	There is limited knowledge among small farmers and producers about the technical and institutional policy frameworks that will allow them to take full advantage of the PES initiatives, including PWS. Overall, there is limited experience in the country with regard to PES. Similarly, small farmers and producers have limited knowledge about the technical, institutional, and economic frameworks for accessing carbon markets Their capacity for implementing environmentally friendly production practices is further limited by: a) a lack of knowledge about certification standards and best practices for certifying biodiversity-friendly agricultural production, sustainable land management, and agroforestry products; b) limited access to credit or subsidies
--	--

environmental benefits and improve their quality of life.	to cover the costs of certification and other related costs; and c) limited capacity to access markets for certified and non-certified products. In addition, small farmers and producers lack the skills necessary to develop business plans for certified and non-certified products, including basic accounting, financial planning, production processes, and information on quality control standards and national and international market preferences. Further, with the end of the PINFOR mechanism in 2016 and a projected decrease in investment through the PINPEP mechanism (only \$3.9 million USD will be invested over the next five years compared to \$12.6 million USD invested during the last 10 years), incentives for farmers to implement sustainable production practices will be reduced. Finally, there is a lack of the necessary baseline information (biophysical, socioeconomic, and market information) for developing impact indicators to support the long-term management and monitoring of environmentally friendly production practices.
2. Environmental authorities and municipalities have limited training and information, and limited planning and management capacities for implementing regional planning efforts for biodiversity conservation, SFM, and SLM in forest/productive landscapes.	The national environmental authorities (e.g., MARN, National Council on Protected areas [CONAP], INAB, and Ministry of Agriculture, Livestock, and Nutrition [MAGA]) and the municipalities lack the tools necessary for the collaborative planning and development of landscape-level initiatives that address issues related to the loss of biodiversity and forest cover simultaneously with the degradation of soils that results primarily from non-sustainable production practices in forest/agricultural landscapes. This includes the lack of and/or outdated management plans for national and regional PAs; the lack of conservation and management programs for areas prioritized for the conservation of endangered species; and the absence of SLM plans to reduce soil degradation, enhance forest cover, and promote ecosystem connectivity, among others. At the local level, municipalities have limited capacity to enforce regulations regarding forest management and biodiversity conservation, including the lack of skilled staff and equipment to control and/or reduce threats to biodiversity and the forests that remain. In addition, the municipalities lack the capacity to engage landowners (privately owned farms, communal forests, etc.) in long-term conservation agreements that will allow them to use landscape management tools (i.e., biological corridors, forest enrichment, live fences, windbreaks, etc.) to strengthen ecosystem connectivity in productive landscapes. Finally, the municipal environmental authorities lack the training and logistical support necessary to implement biodiversity conservation, SFM, and SLM measures, as well to monitor the status of biodiversity, forests, soils, and ecosystems services at the farm and landscape levels.

II.1.2. The baseline scenario or any associated baseline projects.

10. Biodiversity: The problem that the baseline activities address the prevention of biodiversity habitat loss in the humid and very humid montane forests of Guatemala through the protection of the forests. The PAs are an essential component of the strategies to conserve forests and biodiversity in the country. The SIGAP, which is managed by the National Protected Areas Council (CONAP), currently has a total of 322 areas that cover 34,841.99 km² (31.06% of the country's territory). In the region there are 78 PAs, 38 of which are PAs under different management categories. The remaining 40 are PNRs registered with the SIGAP and cover an area of 1,959.20 km² (1.8% of the country's territory). Guatemala's PAs continue to be insufficiently financed, and the data related to current levels of investment and income generation are not generally available. For the year 2010, CONAP required \$24.24 million USD to cover the basic management costs of the PAs, and the budgetary resources that were available that year to cover operating costs and investment in the PAs, including funding from the Central Government, donations, loans, and investments from the PAs themselves was \$19.29 million USD. This resulted in a financial gap of \$4.95 million USD. In addition, it is estimated that over the next few years this gap will grow because of increased operating costs and investment for the PAs due to inflation rate growth in Guatemala. The available financing for CONAP has decreased slightly since 2008, and it is projected that the funds available will be \$7.6 million USD per year for the period of 2012-2017.

11. Forests: The problem that the baseline activities attempt to address is the deforestation and non-sustainable use of the forest. One of the primary activities promoted by the Government of Guatemala (GoG) has been reforestation, especially through the Forest Incentive Program (PINFOR), which offers economic incentives for the reforestation of an area at least 2 ha in size and that is duly inscribed in the Property Registry. Between 1998 and 2012 reforestation of 112,341.94 ha and the use of 216,235.38 ha of forests was achieved through PINFOR with an approximate investment of \$181 million USD. PINFOR will end in 2016 and the INAB has proposed for PROBOSQUES to take its place; the program has already been submitted to the Congress of the Republic of Guatemala for approval. The Incentive Program for Small Holders of Land Suitable for Forestry or Agroforestry (PINPEP) offers economic incentives in the form of cash payments to increase the coverage of small land areas through reforestation and natural forest management. Since its creation in 2006, PINPEP has benefitted 11,583 men and 5,108 women in the management of 1,247.71 ha of natural forest for production; 15,241.29 ha of natural forest for protection; 1,289.71 ha of forest plantations; and 1,502.59 ha of agroforestry systems, with a total

investment of approximately \$12.55 million USD. The projected investments through PINPEP for the 2015-2022 time period will be \$5,893,569 USD.

12. Investments at the regional and national levels are focused on projects and programs developed by the INAB to promote SFM. These include: a) strengthening institutional capacities to improve enforcement of the law and forest governance in Guatemala; b) strengthening the Guatemalan forestry information system to increase market and commercial transparency and decision-making in the forestry sector; c) information system for productivity of forests in Guatemala; d) creation of a program to strengthen the traceability of legally obtained forest products in Guatemala; and e) increased control and efficiency of forest products through the creation of a program to improve the performance of the primary processing forestry industry. Through these initiatives a total of \$495,180 USD will be invested during the 2015-2016 time period. In addition, investments from PINFOR, PINPEP, and the INAB Office of Community Forests have funded the establishment of 19 Municipal Forestry Offices. Training in forestry management and control of forest fires for municipal staff and the local communities of the departments in the region of the project will be a main activity of the baseline.

13. **Land Degradation:** The problem addressed by the baseline activities is the degradation of soil caused primarily by the expansion of non-sustainable agricultural production practices. National-level investments are focused on the formulation of policies and the requirements of technical and legal instruments for implementing the United National Convention on the Fight Against Desertification and Drought in Guatemala. This will be undertaken through programs and/or projects addressing land degradation, desertification, and drought. These programs include the Rural Development Program for Adaptation to Climate Change, the Project for the Integrated Management and Protection of Natural Resources in the Dry Corridor for Adaptation to Climate Change, and sustainable natural resources management with a total budget of \$8,783,720 USD for the 2013-2018 time period. The expected contribution of these projects is increased forest and vegetation cover through the integrated management of natural resources and watersheds in order to prevent land degradation and enhance water availability, among other benefits.

II.1.3. The proposed alternative scenario, with a brief description of expected outcomes and components of the project.

14. The project's objective is to mainstream biodiversity conservation and SLM objectives into the production landscapes of the Central Volcanic Mountain Range in Guatemala, contributing to the well-being of local populations and the delivery of multiple global environmental benefits. The GEF investment will counteract the loss of pine-oak forest (broadleaf forests, mixed forests, and coniferous forests), biodiversity of global importance, and the degradation of soil in the Central Volcanic Mountain Range of Guatemala.

15. The project's overall area of work is located within Guatemala's Pacific slope in the upper and middle parts of the Sierra Madre. To the north, the border of the project's region constitutes the northern part of the political boundary of the 78 municipalities that comprise it (7,176 km²); to the south, the border of the PAs located within this region; to the east, the department of Santa Rosa; and to the west, the border with Mexico. Within this region, an area for direct project intervention has been prioritized. This area includes 31 municipalities (3,897 km²; 54.28% of the overall project area) located within the volcanic range and the areas of biological connectivity (one in the Department of Sololá, six in the Department of Quetzaltenango, five in the Department of Sacatepéquez, four in the Department of Escuintla, ten in the Department of San Marcos, two in the Department of Chimaltenango, and three in the Department Suchitepéquez).¹³ The prioritized area includes the upper and middle portions of eleven (11) watersheds (274,593.17 ha)¹⁴ in the volcanic range, and the PAs within the area of biological connectivity located within those watersheds. The Government of Guatemala has prioritized the Central Volcanic Range of the country over other areas of the country with higher rates of deforestation due to the following reasons: a) the Central Volcanic Range includes areas of low forest cover with medium-to-steep slopes and is a highly important water recharge zone (currently serving more than 8 million people and providing water to the agricultural production systems of the highlands, middle, and lower Pacific slope); b) it includes the last remnants of pine-oak forest in the highlands, which serve as areas of connectivity between existing PAs that are of paramount importance for the conservation of the region's unique biodiversity and to sustain the supply of environmental goods and services; c) it

¹³ Municipality of Nahualá (Department of Sololá); Municipalities of San Marcos, Sibinal, Tajumulco, Nuevo Progreso, El Tumbador, San Pablo, El Quetzal, La Reforma, San Cristobal Cucho, and Esquipulas Palo Gordo (Department of San Marcos); Municipalities of Quetzaltenango, San Juan Ostuncalco, San Martín Sacatepéquez, Zunil, Colomba, and El Palmar (Department of Quetzaltenango); Municipalities of Antigua Guatemala, Santa María de Jesús, Ciudad Vieja, San Miguel Dueñas, and Alotenango (Department of Sacatepéquez); Municipalities of Escuintla, Siquinalá, Palín, and San Vicente Pacaya (Department of Escuintla); Municipalities of San Francisco Zapotitlán, Zunil, and Pueblo Nuevo (Department of Suchitepéquez); and Municipalities of Acateño and Yepocapa (Department of Chimaltenango).

¹⁴ Río Achiguate, Río Coatlán, Río Coyolate, Río Cuilco, Río María Linda, Río Nahualate, Río Naranjo, Río Ocosito, Río Samalá, Río Sis-Icán, and Río Suchiate.

contains a high number of PAs (78), including 38 regional and national PAs and 40 natural private reserves, which will directly benefit from the project through their improved sustainability; and d) the range is home to over 2,000 urban areas and the project will contribute to raising awareness by providing training in environmental issues to reduce pressure from the population on natural resources (biodiversity, forests, water, and soils). The region has an approximate population of 8,554,047 (48.85% men and 51.15% women), of which 44.03% are indigenous. Illiteracy among the population is at 14.90%; the level of poverty is 50.86%, and extreme poverty is 11.86%. Poverty and the size of the population exert high pressure on the region's biodiversity, soil, water, and forests. An important characteristic of Guatemala is the existence of communal lands, which are lands that are owned, possessed, or used by indigenous communities or rural peasants as collective entities, with or without legal status. They are the lands that traditionally have been owned or used under a communal regimen, although they are registered in the name of the government, municipalities, or individual persons. In the region there are a total of 514 areas classified as communal lands, which cover a total surface area of 115,275 ha.

Component 1 – Development of an enabling environment for the delivery of multiple global environmental benefits through models of sustainable agriculture/forestry production and economic incentives derived from improved markets and ecosystem services.

16. This project component will develop an enabling environment to allow mainstreaming of biodiversity conservation, and SLM considerations into the productive landscapes of the Central Volcanic Mountain Range of Guatemala through models of sustainable agriculture and forestry production and economic incentives derived from improved markets and ecosystem services. First, two projects for the payment of water services will be designed in which upstream landowners/landholders will be compensated by downstream water users for maintaining and conserving upstream forest patches (or modifying current land uses) to ensure the availability and/or quality of the water. During the PPG an analysis of the cost-effectiveness of these projects will be conducted, in addition to an evaluation of the willingness for payment of this service. Potential buyers include the Sugarcane Growers Association of Guatemala (ASAZGUA), which is currently involved in PES programs in the Achiguate River watershed. The PIF has been discussed with ASAZGUA, which has shown great interest and willingness to participate in the project. During the PPG efforts will continue to involve ASAZGUA in the project design and increase likelihood for securing payments as water users. This applies the guidance on page 12 of the STAP advisory note on PES and the GEF¹⁵ that emphasizes the need for “targeted investments that enable tangible PES proposals to overcome binding barriers at specific sites.” Discussions with ASAZGUA have already addressed the suggested questions “Are the targeted service users credible as prospective buyers? Are they sufficiently organized internally to act together?” and also “Do the prospective ES providers effectively control access to the land and resources...?” During the PPG phase, further investigation will be made into the other suggested questions: “Is their willingness to pay sufficient to pay for the ES providers’ aggregate opportunity costs? Is there sufficient trust established between buyers and sellers...? Can a reliable intermediary be identified to act as an honest broker between buyers and sellers? Has a proper land-use monitoring and sanctioning system been envisaged?”. This will serve as the basis for defining how the PWS projects will be implemented through Component 2, and will include voluntary mechanisms for participation and legally binding mechanisms to ensure the delivery of services as well as payments from water users (e.g., urban households and agricultural farms) and other related responsibilities and obligations. In addition, during the PPG the existing administrative and technical capacities of environmental authorities for the monitoring of PWS project planning and implementation will be assessed to identify gaps and weaknesses to be overcome as part of the capacity-building actions to be developed by the project. This will include the development of PWS technical standards as well as protocols and specific capacity-building actions (workshops, seminars, etc.) for monitoring the environmental and socioeconomic benefits of the PWS initiatives.

17. Second, economic incentives will be provided through the certification of biodiversity-friendly agricultural production systems (e.g., coffee) and the sale of non-certified products derived from sustainable agroforestry and silvopastoral systems (e.g., fruit, vegetables, and selected timber species) in both domestic and export markets; the support of certified and non-certified products will increase the income opportunities for small farmers derived from the adoption of biodiversity-friendly production practices. To this end the project will support an analysis to assess the feasibility of the certification systems (i.e., certification for biodiversity conservation, organic coffee, etc.) to be implemented through Component 2. The MARN will work closely with the MAGA and INAB to ensure their active participation in the project, as well as the participation of the private sectors related to specific agricultural and forest-based products. This will include Guatemalan National Coffee Association (ANACAFE), which has indicated its interest in participating in and cofinancing the project.

¹⁵ Payments for Environmental Services and the Global Environment Facility: A STAP advisory document. Revised edition March 2010.

Discussions will continue during the PPG to secure the cofinancing and define ANACAFE's participation in the project. The participation of the private sector serve to identify the incentive mechanisms (e.g., price premiums, extension services, preferential purchasing from project areas) for promoting certified and non-certified products and procedures to operationalize environmentally friendly production. A certification systems for agriculture and forestry production will be in place through which farmers agree to adopt sustainable production practices that lead to the certification and non-certification of 72,390 ha (these production practices will be implemented through Component 2). During the PPG phase, current gaps in value chains and the limitations of the current market for certified and non-certified products will be identified as a basis for designing improved marketing strategies and protocols for certified and non-certified agricultural and forest products

18. Third, incentives will be generated through two (2) carbon sequestration compensation projects, which will include agroforestry, silvopastoral, and shade coffee systems, as well as initiatives for the conservation, reforestation, and restoration of forests in productive lands. GEF resources will be used to design a program for carbon sequestration certification and verification, following the methodological framework of the Clean Development Mechanism (CDM) (e.g., AR-AMS0001, aboveground and belowground tree and woody perennials biomass and belowground biomass of grasslands). Carbon credits will be sold in voluntary national markets, which will be developed by the project, and incentives will be delivered through programs such as PINPEP. This approach is based on the successful experience using a CDM methodology and the sale of carbon credits in national markets under the GEF-UNDP Project 3590 *Mainstreaming biodiversity in the coffee sector in Colombia*. The UNDP project 3590 was considered successful based on the achievement of the targets set for emissions benefits under three (3) pilot areas. More specifically, over 7,662 tons of CO₂-eq were sequestered under the project by establishing 450 ha of landscape management tools as part of a greenhouse gas emission offset program for the three (3) pilot areas. The Clean Development Mechanism methodological framework (AR-AMS0001 methodology) was used to estimate the previous carbon sequestration amount and this was verified by the Colombian Institute of Technical Standards (ICONTEC). The project generated demand for the purchase of all 7,662 tons of CO₂-eq at an average price of \$6.30 USD/ton of CO₂-eq. The economic benefits were shared with farmers who participated in the project according to number of certified hectares planted per farm. The project ended in 2014 and this pilot carbon sequestration initiative is being replicated by the Colombian Coffee Federation in other municipalities. For the project proposed herein, the feasibility and payment levels for carbon sequestration in the different markets will be established during the PPG.

19. A financial and profitability analysis that compares revenue from control farms (i.e., farms without the project's intervention) with beneficiary farms (i.e., farms with the project's intervention) will serve to assess changes in net income from small landowners and farmers (beneficiaries differentiated by gender) as a result of the GEF investment, as well as the environmental benefits derived from the implementation of the environmentally friendly agricultural production models and the sustainable use of the forests and the land. Finally, the project will strengthen the capacity of up to 2,000 small producers and farmers (differentiated by gender) for the implementation of biodiversity-friendly production systems, SFM, and SLM. The use of UNDP development indicators will help to evaluate progress made in improving capacity for planning, implementation, and monitoring (the baseline will be established during the PPG).

Component 2 – Delivering multiple environment benefits by connecting core protected areas within sustainably managed production landscapes in the central volcanic chain in Guatemala.

20. This project component will allow the delivery of multiple global environmental benefits (biodiversity conservation, reduced land degradation, and reduced carbon emissions, and increased carbon storage) through the implementation of landscape-level initiatives that address the loss of biodiversity and forest cover and the degradation of soils that result primarily from non-sustainable production practices in forest/agricultural landscapes. . The project will allow the consolidation of 34,792.22 ha of biological corridors, including: a) the implementation of landscape management tools (forest enrichment, live fences, windbreaks, etc.) that connect agriculture/forestry production systems with existing PAs, thereby helping to strengthen the ecosystem structure and functionality of forests and to maintain stable populations of key species (mammals, birds, amphibians, and plants) in the Central Volcanic Mountain Range in Guatemala; and b) the rehabilitation of 4,500 ha of degraded forests through reforestation with native species and natural regeneration, improving carbon stocks by up to 178,000 tCO₂-eq (this target will be confirmed during the PPG). The establishment of landscape management tools (i.e., biological corridors, forest enrichment for conservation and firewood management, live fences, windbreaks, etc.) at the farm level will constitute the building blocks for establishing connectivity between the PAs and forest remnants located outside the PAs. Conservation agreements with landowners (privately owned farms, communal

forests, etc.) will be established for the implementation of landscape management tools and reforestation and to facilitate their access to plant material from thirty one (31) community/municipal nurseries, including native germplasm for agroforestry and silvopastoral systems. Ecosystem connectivity will be further enhanced through SLM plans for the middle and upper sections of up to eleven (11) watersheds (274,593.17 ha), which will include actions to protect and restore the forest cover along streams and springs, in addition to measures to reduce soil degradation at the farm and landscape levels reduction and control of soil erosion and sedimentation, and restoration of stream/river banks). In addition, the project will allow the installation of 1,000 energy-efficient stoves for approximately the same number of families in the communities that reside in middle and upper sections of the Samalá and Achiguate watersheds and who use firewood as their principal source of energy. Avoided GHG emissions resulting from the implementation of the energy-efficient stoves program are estimated to be between 20,000 to 25,000 tCO₂-e over a seven year period (tCO₂-e will be confirmed during the PPG). Five (5) participatory management plans for MRPs and six proposals for the re-categorization of national-level PAs (one NP and six PCZs), will be developed considering their integration with the surrounding forest/production landscapes and emphasizing their importance as the principal landscape elements for the conservation of biodiversity through improved ecosystem connectivity for the delivery of ecosystem services. The CONAP has identified the need for the recategorization of protected areas established prior to 1980, in particular the PCZs, so that these are classified considering current national-level categories of the SIGAP (e.g., Forest Reserve and Natural Monument) and based on technical criteria and updated conservation objectives. Conservation and management programs for three priority areas for the conservation of 15 endangered species of amphibians in the municipal forests of Rafael Pie de La Cuesta (Department of San Marcos), San Pedro (Department of San Marcos), and the Zunil MRP (Department Quetzaltenango) will further contribute to the preservation of forests remnants. As a result of the implementation of these landscape-level initiatives, at least 30% reduction in deforestation (2,315.04 ha) will be achieved, and will contribute to reduced emissions of up to 297,96300 tCO₂-eq over a 7-year period. The development of production plans and protocols to support the implementation of best agricultural and forestry production practices in selected project sites (including private farms, community forests, and municipal forests), will allow the establishment of 72,390 hectares (ha) of certified and non-certified agriculture/forest production systems (including agroforestry systems in coffee landscapes).

21. The project will also serve to improve the management and technical capacity of 80 PA officials, municipal officials, and local communities by at least 15% in the planning, implementation, and monitoring of actions to reduce the loss of biodiversity and forest cover, and the degradation of soils in the selected forest/production landscapes of the central volcanic range in Guatemala. Changes in management and technical capacities will be measured using UNDP capacity development indicators; the baseline will be determined during the PPG phase. More specifically, the project will implement an institutional capacity-building program for national and regional officials and field personnel to support the sustainable management and conservation of biodiversity in production landscapes, the use of SFM and SLM methodologies and tools, and the quantification and evaluation of reduced deforestation. In addition, the project, jointly with municipal authorities and local communities (COMUDES and COCODES), will review and update the development plans for 31 municipalities to ensure that principles for biodiversity conservation, SFM, and SLM, and their implementing measures, are incorporated into the plans. The project will equip and train staff from 20 environmental/forestry municipal offices to improve the capacity of municipal environmental authorities to enforce local regulations regarding biodiversity conservation and forests and land use. Finally, municipal-level monitoring and enforcement systems will be implemented to facilitate decision-making and the assessment of SFM, SLM, and biodiversity benefits in two landscapes in the central volcanic range, and will be articulated with national monitoring systems (MARN, CONAP, and IBAP).

II.1.4. [Incremental/additional cost reasoning](#) and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and [co-financing](#).

Baseline Scenario

22. Although important investments will be made under the “business as usual” scenario, these investments alone will not overcome the barriers that currently prevent mainstreaming biodiversity conservation and sustainable land management objectives into production landscapes of the central volcanic range in Guatemala and the delivery of multiple global environmental benefits. The baseline programs include multiple investments that are planned for the 2016-2022 time period.

23. Existing and planned investments for baseline programs and activities for the 2015-2022 time period are estimated at \$51,371,220 USD. Baseline activities include a total of \$38,096,932 USD by CONAP for PA-related operations and investments. INAB will invest \$5,398,389 USD through PINPEP (reforestation and natural forest management), and an

additional \$495,180 USD for SFM including support for the establishment of Municipal Forestry Offices and training in forestry management and control of forest fires. In addition, the MARN will invest \$8,783,720 USD to reduce land degradation and support sustainable agricultural practices.

GEF Increment to Generate Global Benefits

24. Component 1: The alternative GEF scenario will **facilitate an enabling environment to implement models of sustainable agriculture/forestry production and economic incentives derived from improved markets and ecosystem services**. Incremental financing will be in the amount of \$10,933,587 USD; \$2,157,587 USD will be provided by the GEF and \$8,873,000 USD will be provided by co-financing sources. The GEF alternative will include investments from the MARN, IDB, TNC, ARNPG, and UNDP. Investments will be directed to the design of models of sustainable agriculture and forestry production and economic incentives derived from improved markets and ecosystem services; project's global environmental benefits will be delivered through Component 2.

25. Component 2: The alternative GEF scenario will also **deliver multiple environment benefits by connecting core protected areas within sustainably managed production landscapes in the central volcanic chain in Guatemala**. The incremental financing expected for this component is \$42,852,795 USD; \$8,456,220 USD will be provided by the GEF and \$34,775,750 USD will be provided by co-financing sources. The GEF alternative will include investments from the MARN, CONAP, IDB, TNC, FCA, ARNPG, and UNDP. the global environmental benefits to be delivered to be delivered are:

- 72,390 hectares (ha) of certified and non-certified agriculture/forest production systems.
- Key ecosystems that provide ecosystem services are conserved and used in a sustainable manner.
- Stable populations of indicator species (mammals, birds, amphibians, and plants) forest/agricultural landscapes after seven years (project duration).
- Biological corridors (34,792.22 ha) provide connectivity to forest remnants and contribute to the conservation to biological important areas of the Central Volcanic Mountain Range of Guatemala.
- Species of global importance benefited include: the horned guan (*Oreophasis derbianus*), the highland guan (*Penelopina nigra*), the quetzal (*Pharomachrus mocinno*), the pink-headed warbler (*Ergaticus versicolor*), the golden-cheeked warbler (*Dendroica chrysoparia*), the azure-rumped tanager (*Tangara cabanisi*), the Guatemalan fir (*Abies guatemalensis*), and species from the genera *Pinus* and *Quercus*.
- Key ecosystems that provide ecosystem services are conserved and used in a sustainable manner.
- Improved management effectiveness for 6 national-level PAs (24,170 ha) and 5 regional level PAs (14,611 ha).
- Improved forest cover in forest/agricultural landscapes of the central volcanic range (71,320 ha).
- Carbon sequestration: 178,000 tCO₂-eq in seven years (reforestation, restoration, and sustainable agroforestry and agricultural systems) (tCO₂-e will be confirmed during the PPG).
- Reduction by a least 30% (2,315.04 ha; 297,963 tCO₂-eq) in deforestation in prioritized landscapes in the central volcanic range including buffer zones of existing PAs (Component 2).
- Reduction in firewood consumption and GHG emissions: 20,000 to 25,000 tCO₂-e over a seven-year period (tCO₂-e will be confirmed during the PPG).
- Up to eleven (11) sustainable land management plans (watershed management plans) for the middle and upper sections of eleven watersheds (274,593.17 ha) in the Pacific slope of Guatemala.

26. Project management costs amount to \$2,689,317 USD, out of which GEF will provide \$530,690 USD and the co-financing sources will provide \$2,158,627 USD. The GEF alternative has a total cost of \$109,249,919 USD, 10.2% of which will be provided by GEF (excluding PPG funds).

II.1.5. [Global environmental benefits](#) (GEFTF) and/or [adaptation benefits](#) (LDCF/SCCF);

27. Global environmental benefits will include:

a. Improved habitat for biodiversity:

- Stable populations of indicator species (mammals, birds, amphibians, and plants) forest/agricultural landscapes after seven years (project duration).
- Biological corridors (34,792.22 ha) provide connectivity to forest remnants and contribute to the conservation to biological important areas of the Central Volcanic Mountain Range of Guatemala.

- Species of global importance benefited include: the horned guan (*Oreophasis derbianus*), the highland guan (*Penelopina nigra*), the quetzal (*Pharomachrus mocinno*), the pink-headed warbler (*Ergaticus versicolor*), the golden-cheeked warbler (*Dendroica chrysoparia*), the azure-rumped tanager (*Tangara cabanisi*), the Guatemalan fir (*Abies guatemalensis*), and species from the genera *Pinus* and *Quercus*.
 - Key ecosystems that provide ecosystem services are conserved and used in a sustainable manner.
- b. Improved management effectiveness for 6 national-level PAs (24,170 ha) and 5 regional level PAs (14,611 ha) after seven years.
- c. Improved forest cover in forest/agricultural landscapes of the central volcanic range (71,320 ha).
- d. Carbon sequestration: 178,000 tCO₂-eq in seven years (reforestation, restoration, and sustainable agroforestry and agricultural systems) (tCO₂-e will be confirmed during the PPG).
- e. Reduction by a least 30% (2,315.04 ha; 297,963 tCO₂-eq) (tCO₂-e will be confirmed during the PPG) in deforestation in prioritized landscapes in the central volcanic range including buffer zones of existing PAs (Component 2).
- f. Reduction in firewood consumption and GHG emissions: 20,000 to 25,000 tCO₂-e over a seven year period (tCO₂-e will be confirmed during the PPG).
- g. Up to eleven (11) sustainable land management plans (watershed management plans) for the middle and upper sections of eleven watersheds (274,593.17 ha) in the Pacific slope of Guatemala.

28. In addition, the project will be addressing the drivers of deforestation as follows:

Drivers	Measures
Agricultural expansion	<ul style="list-style-type: none"> - Up to 11 sustainable land/watershed management plans in agricultural landscapes; Reduction of agriculture pressures through sustainable business models and economic incentives that bring about a shift from extensive agricultural practices such as “slash and burn” to intensive agriculture and agroforestry, including PES, production of certified and non-certified products (including coffee), and compensation for carbon sequestration and restoration in agricultural landscapes; - Development plans for 31 municipalities incorporate principles for biodiversity conservation, SFM, SLM, and reduce pressures from the expansion of agriculture
Non-sustainable use of the forests: Fuelwood	<ul style="list-style-type: none"> - Improved control and surveillance in PAs, including 31 environmental/forestry municipal offices fully equipped and with staff trained in the reduction of threats to forests within PAs and production landscapes - Updated participatory PA management plans to reduce illegal fuelwood extraction, and other threats to biodiversity and forests - Implementation of an energy-efficient stoves program to reduce fuelwood consumption and GHG emissions (20,000 to 25,000 tCO₂-e over a 7-year period)
Forest fires	<ul style="list-style-type: none"> - Improved control and surveillance in PAs, including 31 environmental/forestry municipal offices fully equipped and with staff trained in the reduction of threats to forests within PAs and production landscapes - Development plans for 31 municipalities incorporate principles for biodiversity conservation, SFM, SLM, and reduce pressures from the expansion of agriculture including single-crop plantations

III.6. Innovation, sustainability and potential for scaling up.

29. The project proposes the following innovative actions: a) implementation of PWS projects that contribute to biodiversity and forest conservation by promoting transactions (monetary compensation, goods, or services) between the landowners and/or landholders where the forest ecosystems that provide these services are located, and end-users that benefit from their permanent provision; in this case, between the inhabitants of the upper portions of the watersheds and the high-producing systems of the lower portions of the watersheds that make use of water; b) the creation of technical protocols or documents to strengthen agricultural, agroforestry, marketing, and communication activities for improved and sustainable biodiversity-friendly products; c) the implementation of monitoring and control systems at the municipal level to

support decision-making for the conservation of biodiversity and forests, the provision of ecosystem services, and the enhancement of ecosystem connectivity. The results from these actions shall be documented during project execution and presented to the government institutions, universities, NGOs, municipalities, the private sector, and civil society to disseminate best practices and lessons learned so that these can be replicated in at least 10 more watersheds in other regions of the Pacific slope and the Atlantic/Gulf of Mexico slope.

30. The basis for the ecological sustainability of the project resides in the consolidation of biological corridors through enhanced ecosystem connectivity, improved management effectiveness of the PAs, and SLM at the local (privately owned farms, communal forests, etc.) and landscape (watersheds and municipalities) levels. The socioeconomic sustainability of the project will be achieved through the participation of local communities (including women), the private sector, and local governments (municipalities) in the planning and implementation of activities to reduce pressure on forest remnants and existing PAs in the Central Volcanic Mountain Range; the benefits that small landowners and farmers will obtain from incentives and payments for the protection and sustainable use of forest and biodiversity; and the adoption of environmentally friendly production practices. Finally, the basis for the institutional sustainability of the project lies in the ability of the project to improve the capacity of national and local authorities, NGOs, the private sector, and civil society organizations (CSOs) to jointly plan for and manage sustainable agriculture/forest landscapes. To this end, the project will develop municipal-level monitoring and enforcement systems to facilitate decision-making and the assessment of SFM, SLM, and biodiversity benefits; train and provide logistical support to municipalities; increase local knowledge and skills of small agriculture and forestry producers for the implementation of best management practices (biodiversity, forest, and the land); and train national and regional officials and field personnel to provide technical support to local stakeholders.

II.2. *Stakeholders*. Will project design include the participation of relevant stakeholders from [civil society](#) and [indigenous people](#)? (yes ☒ /no ☐) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation.

Stakeholder	Role in the project
MARN	The MARN is the Operational Focal Point of the GEF. The agency is charged with the development and execution of Guatemala's environmental policies. It will provide the specific relevant information (geographic information system [GIS], studies) to guide the activities for SLM and biodiversity conservation. The MARN will provide technical guidance for project implementation of the activities related to SFM and SLM, and is responsible for the direction, coordination, execution, and oversight of the project, as well as maintaining adequate communication for national partners of the project and the GEF.
CONAP	The CONAP is the focal point of the CDB and the administrator for managing the PAs. The agency will facilitate coordination between the local stakeholders where the PAs are located, such as the municipalities, owners of private natural reserves, and CSOs. The CONAP will play a central role in project implementation, facilitating and guiding activities related to SFM, SLM, and forest and biodiversity conservation.
INAB	The INAB is the entity charged with the execution and promotion of forest policy in Guatemala. The agency will facilitate contact and coordination and will provide technical guidelines for the project actions that are aligned with forest policy, their institutional program, and principally will harmonize the ongoing initiatives related to SFM and SLM.
MAGA	The MAGA is charged with developing and executing agricultural development and the sustainable use of renewable natural resources and the services they provide. The agency will promote specific relevant information (GIS, studies) in the region of project implementation for SLM and LULUCF, and it will facilitate coordination with institutions, organizations, and municipalities.
Secretary of Planning and Programming of the Presidency (SEGEPLAN)	SEGEPLAN is responsible for the design and formulation of public policies for the GOG, as well as the monitoring and evaluation of these policies. The agency will be responsible for guiding the institutions involved so that the project actions are harmonized with the related public policies.
INSIVUMEH (National Institute for Seismology, Volcanology, Meteorology and Hydrology)	INSIVUMEH is a scientific institution within the GOG. The agency studies and monitors atmospheric, geophysical, and hydrological events and the associated risks, and provides information and recommendations to the government and the private sector in the event of a natural disaster. INSIVUMEH will provide information related to weather conditions for the project area, which will be used to implement disaster mitigation measures for forest fires, droughts, hurricanes, floods, and volcanic eruptions, as well as enhance the resilience of ecosystems and biodiversity to climate variability.
Municipalities	The municipalities are responsible for the sustainable use of natural resources within their jurisdictions, in

(19)/ANAM/INFOM	<p>coordination with the national institutions that are charged with the development of environmental regulations. The municipalities will participate in the implementation of SFM, SLM, biodiversity conservation, and PAs management activities within their jurisdictions and will be beneficiaries of capacity development (e.g., training, equipment, etc.) The municipalities are organized through the National Association of Municipalities (ANAM). The municipalities and ANAM develop actions jointly for their own benefit, such as defending the municipal budget, legal reviews, the creation of proposals, and achieving an adequate and permanent representation in initiatives and forums. To this regard, the ANAM will facilitate project implementation by coordinating execution of project activities with the municipalities in, principally with those municipalities that are located within the central volcanic belt and that already contain MRPs declared as PAs. In addition, the ANAM will coordinate with the Municipal Development Councils (COMUDES) and Community Development Councils (COCODES) as instruments of governance.</p> <p>The Municipal Development Institute (INFOM) aims to support the municipalities of Guatemala in promoting their development and providing them with technical and financial assistance. INFOM will play a central role in coordinating actions for the participation of municipalities in the project, particularly in the implementation of project activities in PAs and their buffer areas.</p>
Private sector	<p>The private sector is composed of the farmers and agricultural associations, the Guatemalan National Coffee Association (ANACAFE), and the Guatemala Exporters Association (AGEXPORT) who will receive benefits from the project through the proposed actions and will participate in the implementation of SFM, SLM, and biodiversity conservation activities. It also includes the Private Institute for Climate Change Research (ICC), who has developed activities related to research, studies, training, and management of watersheds and carry out sustainable land use activities in the Pacific slope along the length of the southern coast of Guatemala. The IIC was established by the Sugarcane Growers Association of Guatemala (ASAZGUA) and will play a central role in the implementation of the project related to SFM and SLM by facilitating coordination with the private sector.</p>
AGEXPORT	<p>AGEXPORT is a non-profit private entity founded to develop and promote exportation of non-traditional products in Guatemala. AGEXPORT will participate in the project by contributing to training related to best agricultural practices, guiding farmers living near or within PAs, and supporting agricultural certification systems. AGEXPORT will also contribute through developing market strategies, promoting incentive mechanisms (preferential prices, extension services, preferential purchasing land for the project), supporting training programs for small farmers with an emphasis on the exportation of crops, and strengthening biological connectivity using agroforestry systems.</p>
ANACAFE	<p>ANACAFE is a private and autonomous entity whose main objective is to strengthen the national economy through the production and exportation of coffee. ANACAFE will support the project through the implementation of best coffee production practices for farmers who live near or within the PAs, coffee certification processes, development of market strategies, promotion of incentive mechanisms (preferential prices, extension services, preferential purchasing land for the project), support of training programs for small farmers with emphasis on exportation of crops, and strengthening biological connectivity through the support of biodiversity-friendly coffee production. UNDP has been in conversations with ANACAFE, which has indicated its interest in participating in and cofinancing the project. Discussions will continue during the PPG to secure the cofinancing and define ANACAFE's participation, which may include ANACAFE acting as an executing agency.</p> <p>Coffee and sugar are the principal cash crops in the country, by including ASAZGUA and ANACAFE as part of the project, UNDP and the Government of Guatemala will ensure that biodiversity conservation and sustainable use is effectively mainstreamed into these production sectors with expected benefits beyond the project life and the prioritized area of intervention.</p>
Private Natural Reserves Association (ARNP)	<p>The objective of the ARNP is contribute to the conservation of natural resources by adequately managing them under the concept of sustainable development in individual and communal voluntary natural reserves. Through national and international alliances, the ARNP seeks to be an autonomous and decentralized leader that represents the greatest diversity of ecosystems and supports the members of the association through assistance, promotion, and implementation of projects and environmental education. The ARNP will contribute by providing information, experiences, and proposals having to do with biodiversity conservation, that guide the appropriate formulation of the project.</p>
NGOs	<p>The Foundation for the Conservation of Natural Resources and the Environment in Guatemala (FCG); HELVETAS; CARE; the Nature Conservancy (TNC), Rainforest Alliance, the Forestry Association of Quetzaltenango (ASOFORQ); the Forestry Roundtable of Quetzaltenango; Region VI Western Highlands (MESAFORC VI) that covers the departments of San Marcos, Totonicapán, Sololá, and Quetzaltenango; and the Association of Forest Producers of Chimaltenango (APROFORCHI) are associations dedicated to natural forest</p>

	management and biodiversity conservation. NGOs will provide information and experiences regarding SFM, SLM, biodiversity conservation, and PAs management (regional municipal parks, community, and municipal forests) that guide the appropriate implementation of the project and facilitate coordination with the beneficiary groups, producers' organizations, biodiversity conservation organizations, and the municipalities.
Local communities and community organizations	The local communities in the project region are generally dedicated to the production of basic grains (corn and beans in <i>minifundio</i>), vegetable cultivation (vegetables for the national market and/or export), coffee (in some sites), which are characterized as subsistence activities. In addition, there are some farmers with larger size coffee cultivations (greater than 50 ha, but are the smallest) and forest management activities (natural forests and forest plantations). The farmers who benefit from the project will be those tied to forest management (community, municipal, and others), conservation of water resources, development of agroforestry, and the management and conservation of PAs or areas influencing the buffer zones of the PAs. UT'Z CHE': The National Alliance of Community Forestry Organizations of Guatemala is an association for the collective management and conservation of the forests, as well as the sustainable development of the communities. UT'Z CHE' will work with those regions where the association is represented by its partners, in coordination with the municipalities. There are 31 prioritized municipalities in the departments of Sacatepéquez (5), Chimaltenango (2), Escuintla (4), Sololá (1), Quetzaltenango (6), Suchitepéquez, (3) and San Marcos (10).
UNDP	The UNDP is the GEF implementing agency that will provide guidance, institutional support, and administrative technical assistance, as well as theoretical and practical knowledge at the national level for the effective execution of the project.

II.3. *Gender Considerations*. Are [gender considerations](#) taken into account? (yes ☒ /no ☐). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.

31. One relevant aspect to the formulation of the project is the consideration of gender issues. In the project's prioritized area the majority of the population is indigenous (60%), except for the department of Guatemala; the ethnic groups in the region are Kakchiquel, Pocoman, Kakchiquel, Quiché, Mam, and Tektiteco. Indigenous women (and women in general) play three fundamental roles that will be considered in the formulation of the project. First, in the productive sector women's physical and intellectual capabilities and their creative abilities are used for generating goods and services. Thus, women will play an active role as beneficiaries of the PWS projects, preferential pricing for certified and non-certified agriculture/forest products, and compensation for carbon sequestration and restoration. Second, women's roles in the reproductive sector is vital for activities such as maintaining the household; protection, care, and the raising of children; and the reinforcement of values and culture with the rest of the family. Project benefits will contribute to the food security of women and their families, providing a more favorable environment for the development of household-related activities. Finally, women play a role in the development of their communities. Women will actively participate in decision-making processes regarding planning and implementation of activities for the conservation and sustainable use of biodiversity and the delivery of ecosystem services. Historically in Guatemala men have played greater roles in decision-making and have had greater participation in government institutions. Nevertheless, during the project formulation equal opportunities will be given to women as well as men so that natural resources management, environmental protection, and conservation of biodiversity and forests is achieved equally, with consideration given to the role and priorities of both, and granting them the opportunity to express themselves at the various levels of government institutions, the private sector, and social organizations like Ut'z Che' (which has formed a network of its own women partner associations), Tikonel, and ACAX.

II.4. *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).

Risk	Level*	Risk Mitigation Measures
The lack of willingness for cooperation among the numerous institutions/entities charged with conservation of the environment and the productive sector	L	The project will involve the relevant institutional stakeholders in the PPG and during project implementation, including the MARN, INAB, CONAP, MAGA, the municipalities, COMUDES, COCODES, agricultural cooperatives, and producers' associations to ensure their support and participation in the project.
Lack of compliance in the certification of biodiversity-	L/M	The project will develop and test protocols to verify and monitor compliance with certification standards on the farms that use the biodiversity- and environmentally friendly

and environmentally friendly products		production models.
Economic benefits do not materialize because of market limitations (low prices, limited demand, etc.)	M	The project will mitigate this risk through the promotion of multiple economic incentives, subsidies, and in some cases, direct payments through cofinancing for ecosystem services (production of clean water, erosion control , improved carbon stocks, conservation of biodiversity habitat) and the diversification of agricultural production to include other biodiversity-friendly products.
Incentive schemes setup by the project may not be sustainable in the long-term	M	The project will mitigate this risk by creating a national carbon market using a CDM methodology following on a successful model implemented in Colombia under a recently completed GEF project. In addition, the project will work closely with INAB (PINPEP) and the FCA (small grants program) to ensure that incentives will be available to local farmers beyond project completion. Also, the PWS pilot projects will continue operating as part of long-term contracts to be established between sellers and buyers. Finally, the project will invest in developing capacities at the national, municipal, and local levels in order to ensure that skills and tool are in place for the long –term sustainability of project results.
Climate change affects the forest ecosystems that are vital for the stability of sustainable production landscapes	L	The risks related to climate change may include extreme variations in temperature and/or torrential rains associated with tropical storms. The project will promote connectivity between forest stands and PAs in the central volcanic range, improving the resilience of biodiversity to climate change through increased mobility of species and by providing refuge against temperature changes. The project activities for SFM and SLM will result in more stable and resilient forests (for example, diversity of age groups and improved resilience for regeneration). In addition, there will be increased protection of soils and regulation of water cycles that will create stable micro-climatic conditions benefiting the associated forest species, as well as a reduction in the vulnerability of human populations to climate change.

* L = low; M = medium; H = high

II.5. *Coordination.* Outline the coordination with other relevant GEF-financed and other initiatives.

32. The project will incorporate best management practices and lessons learned through the GEF-UNDP project *Mainstreaming biodiversity in the coffee sector in Colombia* regarding marketing of certified and non-certified agricultural and forest products, PES, and compensation for carbon sequestration and restoration programs. The main objective of Colombian coffee project was to create an enabling environment for the conservation and sustainable use of biodiversity in coffee production landscapes that contributes to the livelihoods of the local populations and provides multiple global environmental benefits. The project concluded in 2014; the final project evaluation determined that the project was successful in achieving its goals and results, and that its impact was positive.

33. The project will coordination actions and share lessons learned with the ongoing GEF-UNDP project *Conservation and sustainable use of biodiversity in coastal and marine protected areas (MPAs)*. In particular, coordination will be sought for the complementary planning of actions, using a watershed approach, which will be conducive to: a) prevention and reduction of the degradation of forests, soils, and water courses in the watersheds of the Pacific slope where both projects will implement actions; b) the control and reduction of contamination resulting from different land uses, including solid waste and wastewater management in the upper watersheds to reduce levels of contamination flowing to coastal areas; and c) increased participation of local communities (COMUDES, COCODES, and CODEDES) in decision-making processes with regard to the reduction of agricultural-based impacts on the natural ecosystems of the upper and mid portions of the watersheds that drain to the Pacific coast of Guatemala. The coordination of actions and exchange of information will be achieved through regular team meetings between the implementation teams of the two projects, with support of the MARN and UNDP.

34. The exchange of lessons learned will also be sought with the GEF-UNDP project *Sustainable Forest Management and Multiple Global Environmental Benefits*, which is currently under implementation. This SFM project, which is being implemented directly by the UNDP, will provide multiple global environmental benefits through strengthened land and forest management and the conservation of biodiversity in a mountain dry forest landscape in southwestern Guatemala and a mountain humid forest landscape in western Guatemala. The exchange of information and lessons learned between the two

projects will be achieved through technical staff meetings, participatory forums, and platforms for disseminating information from the MARN, UNDP, and the GEF.

35. The GEF-UNDP project *Promoting ecotourism to strengthen the financial sustainability of the SIGAP* will provide experiences and lessons learned regarding the participatory development and updating of management plans for PAs, as well as for their financial sustainability. This ecotourism/PA project, which is currently being implemented by the CONAP as the Executing Agency, will contribute to the strengthening of the financial sustainability of the SIGAP through the development of new financial mechanisms associated with ecotourism in line with the objectives of biodiversity conservation in selected PAs and their surrounding landscapes in the Western Guatemala Highlands. These PAs are the Lake Atitlán Watershed Multiple Use Reserve—RUMCLA, the Todos Santos Cuchumatán MRP, and the Tacaná Volcano, Tajumulco Volcano, and the Chicabal Lake-Volcano PCZs).

36. Finally, actions will also be coordinated with the Adaptation Fund project *Climate change-resilient productive landscapes and socio-economic networks advanced in Guatemala*. The objective of this project is to increase resilience to climate change in the productive landscapes and socioeconomic systems of the five pilot municipalities in the central highlands that are threatened by climate change. This project has the UNDP and the MARN as its implementing partners, which will facilitate the exchange of information and lessons learned.

II.6. *Consistency with National Priorities*. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒/no ☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

37. The project will contribute to achieving the objectives of the National Policy for Biological Diversity and the CBD Action Plan 2011-2020 through the restoration and reforestation of degraded areas and the conservation and sustainable use of biodiversity in natural forests, including measures to strengthen PA management and their buffer zones in the central volcanic range of Guatemala, as well as the consolidation of the same area's biological corridor through improved connectivity between existing PAs and forest patches in an agricultural/livestock productive landscape. Additionally, the project responds to the Protected Areas Law, Decree 4-89 (modified by Decree 10-96), which sets forth that biodiversity is an integral part of the Guatemala patrimony, and as such, should be conserved through the effective management of the PAs. Guatemala is a member country of the CBD by ratification on July 10, 1995. The 10th Conference of Parties (COP 10, ratified in Nagoya, Japan), Decision X/2: Strategic Plan for Biodiversity 2011-2020, sets forth strategic objectives and goals for biodiversity (Aichi Targets) for the members of the CBD. The project will contribute to achieving Aichi Targets 2, 5, 7, 11, 14, 15, and 18.

38. The project follows the guidelines set forth in the national policy for the Conservation, Protection, and Improvement of the Environmental and Natural Resources (2007) for the development of standards for conservation and sustainable use of forests and the inclusion of forests and prioritized areas for reforestation as key elements in the country's land use plans. The project is consistent with the Forest Law of Guatemala (1996) and the National Forest Policy. The National Forest Policy also establishes that the municipalities shall collaborate with the INAB to ensure legal compliance and that the municipal governments shall develop, approve, and implement development plans for local use of forest resources. The forestry legislation, together with the Guatemalan Municipal Code (1999), favors the decentralization of forest management and provides a clear definition of the role of the municipalities, including: a) the development of forest policy at the local level and management plans; b) activities around the granting of licenses, control, and inspection; and c) establishing monitoring mechanisms, which includes the establishment of the Municipal Forestry Offices. The project addresses these directives and promotes the collaborative association between the INAB and municipalities for forest management. The project will serve to strengthen the Municipal Forestry Offices by equipping and training personnel for improved planning, management, and monitoring skills. The project will also focus on two actions in the National Forestry Agenda (ANF), which were approved by the INAB within the framework of Guatemala's National Forestry Program: a) the conservation of forests, including forests associated with PAs that comprise the SIGAP, and b) the promotion of economic compensation mechanisms for carbon sequestration. The project will make use of the PINPEP mechanism and the PROBOSQUE initiative if approved by the GoG, to provide incentives to small farmers and land owners for the implementation of SFM activities and to contribute to their well-being.

39. The project will also take action to reduce GHG emissions as established in the framework of the National Climate Change Policy (2009) and the Framework Law for Regulating the Reduction of Vulnerability, Obligatory Adaptation to the Effects of Climate Change, and Mitigation of Greenhouse Gases. The project will contribute to that which is stipulated in

the law in the following manner: a) the reduction of GHG emissions; and b) reduction of forest fires and the effective management of biological corridors and forest ecosystems to increase their resilience to climate variability and climate change, and to ensure the maintenance of ecological processes and natural goods and services.

II.7. *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.

40. Results from the project will be disseminated within and beyond the project intervention area through a number of existing information sharing networks and forums. In addition, the project will participate, as is relevant and appropriate, in UNDP-GEF sponsored networks that are organized for senior staff working on projects that share common characteristics. The UNDP-GEF Regional Coordination Unit (RCU) has established an electronic platform for sharing lessons learned among the project managers. The project will identify and participate, as is relevant and appropriate, in scientific, policy-based, and/or any other networks that may be of benefit to project implementation. The project will identify, analyze, and share lessons learned that might be beneficial for the design and implementation of similar future projects. Identifying and analyzing lessons learned is an ongoing process, and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered no less frequently than once every 12 months. The UNDP-GEF shall provide a format for this exchange and will assist the project team in categorizing, documenting, and reporting the lessons learned. Specifically, the project will ensure coordination in terms of avoiding overlap, sharing best practices, and generating knowledge products of best practices in the area of biodiversity conservation, SFM, and SLM with the current projects of Guatemala's portfolio. Knowledge-management activities will be included as part of the project's Monitoring & Evaluation Plan and will be properly budgeted.

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


A. Record of Endorsement¹⁶ 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 **SGP OFP ENDORSEMENT LETTER**).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Michelle Melisa Martínez Kelly	Minister	MINISTRY OF THE ENVIRONMENT AND NATURAL RESOURCE	JANUARY 30, 2015

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies¹⁷ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Adriana Dinu, Executive Coordinator, UNDP-GEF		July 20, 2015	Santiago Carrizosa, Senior Technical Advisor, EBD	+507 302-4510	Santiago.carrizosa@undp.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to the PIF. N/A

¹⁶ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

¹⁷ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF