United Nations Development Programme

Country: Guatemala

PROJECT DOCUMENT

Sustainable Forest Management and Multiple Global Environmental Benefits

UNDAF Outcome 1.	By 2014, environmental management is strengthened and risk is reduced, with the participation of civil society; there is a better use of renewable energy and improved access to water and sanitation, with special emphasis placed on populations vulnerable to climate and geological risks.
Expected Outcome 6 CPD	By 2014, the Guatemalan population especially those vulnerable to climate risks, have improved environmental management and have more access of renewable energy services.
Expected Output from the project	To strengthen land/forest management processes and biodiversity conservation in order to secure the flow of multiple ecosystems services while ensuring ecosystem resilience to climate change.
Indicator from the project	Number of hectares of humid forest under internationally or nationally recognized management standards in the western region. Area (ha) (by forest type) under best management practices in LULUCF, including monitoring of carbon stocks. Area (ha) rehabilitated (by forest type). Change in coverage (ha) and quality (rapid assessment method) of the forests in the dry areas Regional plans support the integration of agriculture, forests, rangelands, and other land Avoided emissions (tCO_2-e) from deforestation by forest type during a 5-year period
Executing Entity[1]:	Ministry of the Environment and Natural Resources of Guatemala (MARN); Protected Areas National Council (CONAP)
Implementing Entity[2]:	United Nations Development Program - UNDP

Brief Description

The project will provide multiple global environmental benefits by strengthening land/forest management processes and biodiversity conservation in a dry mountain landscape in southeastern Guatemala and a humid mountain landscape in western Guatemala. This will be achieved through a multifocal strategy that includes: a) the development of a legal, planning, and institutional framework for integrating SFM/REDD+ and SLM principles within national environmental and development policies (e.g., integrated approach to managing forest ecosystems, protection and sustainable use of biodiversity, prevention of land degradation, and integration of people's livelihood objectives within the management of forest ecosystems); b) piloting SFM/REDD+ and SLM practices in the southeastern region of Guatemala (departments of Jalapa, Jutiapa, and Santa Rosa) to improve carbon stocks, reducing dry forest deforestation, and reducing the susceptibility to desertification and drought; and c) piloting SFM/REDD+ in western Guatemala (department of Huehuetenango) to increase ecosystem connectivity and contribute to the conservation of biodiversity in a humid mountain forest/agricultural landscape.

[1] The Government exercises its ownership and responsibility for UNDP programme activities by approving and signing the Country Programme Action Plan (CPAP) with UNDP. All activities falling within the CPAP are, therefore, nationally executed

[2] The term 'implementation' means the management and delivery of programme activities to achieve specified results, specifically the mobilization of UNDP programme inputs and their use in producing outputs that will contribute to development outcomes, as set forth in the Annual Work Plans (AWPs).

Programme Period: 2010-2014	**Total budget**	**$ 18,117,401.18**
Programme Component: Environment and Sustainable Development	***Total allocated resources*** **:**	
Atlas Award ID: 73935	GEF-[3]	$4,400,000.00
ID Proyect: 00086515	**Cofinanciamiento de otras entidades**[4]	
GEFSEC Project ID: 4479	***Total allocated resources (cash):***	***$12,992,847.00***
PIMS #: 4637	• KfW	$11,880.000.00
	• FUNDAECO	$ 350,361.00
Duration: 60 months	• CALMECAC	$205,105.00
Start date: November, 2013	• UNDP	$557,381.00
End Date: November, 2018	***In-kind contributions***[5]***:***	***$ 724,554.18***
	• MARN	$ 557,380.96
Management Arrangement: DIM	• Municipio de Santa Eulalia	$12,320.00
PAC Meeting Date: 3-oct-2013	• Municipio de Todos Santos Cuchumatán	$20,635.00
	• Municipio de San Juan Ixcoy	$24,068.22
	• CALMECAC	$110,150.00

Agreed by the (UNDP): Valerie Julliand 30/10/2013

Date/Month/Year

3 El financiamiento que brinda el FMAM es considerado como fondos adicionales o incrementales. Estos recursos financian actividades con el fin de que un proyecto llegue a generar beneficios ambientales mundiales, actividades que no podrían realizarse con el presupuesto con el que cuenta el país en la actualidad.

4 Cofinanciamiento: son los recursos de proyectos que no provienen del FMAMpero resultan imprescindibles para alcanzar los objetivos de los proyectos financiado por el FMAM y contribuyen directamente a los resultados del proyecto futuro. Estos recursos pueden ser en especie o en efectivo

5 El FMAM considera como contribución en especie la cuantificación proporcional de la capacidad instalada de una institución pública, monto que contribuirá a los resultados de un proyecto financiado por el FMAM. El FMAM considera como contribución en efectivo, la cuantificación proporcional de salarios del personal de una institución pública.

LIST OF ACRONYMS

ACODIHUE	Association for the Cooperation of Integrated Development in Huehuetenango
ACOFOP	Association of Forest Communities of the Petén
ANAM	National Association of Municipalities of Guatemala
ANF	National Forestry Agenda
APR	Annual Project Report
AR	Afforestation and Reforestation
ASILJA	Foresters Association of Jalapa
ASOCUCH	Association of Organizations of the Cuchumatanes
AUD	Avoided Unplanned Deforestation
AWP	Annual Work Plan
BD	Biodiversity
BMPs	Best Management Practices
C	Carbon
°C	Degrees Celsius
CALMECAC	Foundation of Integrated Development of Men and the Environment
CBD	Convention on Biological Diversity
CC	Climate Change
CCB	Climate, Community, and Biodiversity Standards
CCM	Climate Change Mitigation
CEMEC	Center for Evaluation and Monitoring
COCODES	Community Development Councils
CODEDES	Departmental Development Councils
COMUDES	Municipal Development Councils
CONAP	National Protected Areas Council
CONRED	National Council for Disaster Reduction
CPAP	Country Programme Action Plan
CSO	Civil Society Organization
DIM	Direct Implementation Modality
EIA	Environmental Impact Assessment
EISU	Environmental Information Systems Unit
ERC	Evaluation Resource Center
ERPA	Emission Reduction Purchase Agreement
FCA	Fund for Conservation of Tropical Forests (Guatemala)
FAS	Foundation for Sustainable Amazonas (Brazil)
FCPF	Forest Carbon Partnership Facility
FCG	Foundation for the Conservation of Natural Resources and Environment in Guatemala
FFEM	French Fund for the Environment
FPIC	Free, Prior, and Informed Consent
FUNDAECO	Fundación para el Ecodesarrollo y la Conservación
GCI	Interinstitutional Coordination Group
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIS	Geographic Information System
GOFC-GOLD	Global Observation of Forest and Land Cover Dynamics
GoG	Government of Guatemala
GPS	Global Positioning System
ha	Hectares

HDI	Human Development Index
IADB	Inter-American Development Bank
ICTA	Institute of Agricultural Science and Technology
IFN	National Forest Inventory
ILO	International Labor Organization
INAB	National Forest Institute
INSIVUMEH	Institute of Seismology, Volcanology, Meteorology, and Hydrography
IPCC	Intergovernmental Panel on Climate Change
ITG	Interinstitutional Technical Group
IUCN	International Union for the Conservation of Nature
IW	Inception Workshop
JNR	Jurisdictional and Nested REDD+
KfW	German Development Bank
km^2	Square Kilometers
LD	Land Degradation
LSC	Local Steering Committee
LULUCF	Land Use, Land Use Change, and Forestry
m^3	Cubic Meters
M&E	Monitoring and Evaluation
MAGA	Ministry of Agriculture, Cattle Ranching, and Nutrition
MARN	Ministry of the Environment and Natural Resources
masl	Meters Above Sea Level
MBR	Maya Biosphere Reserve
MDC	Municipal Development Council
MEIS	Municipal Environmental Indicators System
MFO	Municipal Forestry Office
mm	Millimeters
MOEM	Municipal Office for Environmental Management
MRP	Municipal Regional Park
M/MRV	Monitoring, Measurement, Reporting, and Verification
MRV	Monitoring, Reporting, and Verification
NGO	Non-Governmental Organization
PA	Protected Area
PAFFEC	Family Farming Program to Strengthen the Peasant Economy
PC	Project Coordinator
PD	Project Description
PDD	Project Design Document
PIF	Project Identification Form
PINFOR	Forest Incentive Program
PINPEP	Incentive Program for Small Holders of Land Suitable for Forestry or Agroforestry
PIR	Project Implementation Review
PIU	Project Implementation Unit
PPG	Project Preparation Grant
PROANDYS	National Program to Combat Desertification and Drought
PSC	Project Steering Committee
QA/QC	Quality Assurance/Quality Control
RBLAC	UNDP Regional Bureau
RCU	Regional Coordination Unit
REDD+	Reduction of Emissions from Deforestation and Degradation of Forests
R-PP	Readiness Preparation Proposal
ROAR	Results-Oriented Annual Report

SBAA	Standard Basic Assistance Agreement
SEGEPLAN	Secretary of Planning and Programming of the Presidency
SFM	Sustainable forest management
SIGAP	Protected Areas System of Guatemala
SLM	Sustainable land management
SNER	Rural Extension National System
STAP	Scientific and Technical Advisory Panel
ToRs	Terms of Reference
TPC	Tripartite Committee
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNDP CO	United Nations Development Programme Country Office
UNFCCC	United Nations Framework Convention on Climate Change
URL	Rafael Landívar University
USD	U.S. Dollars
UTCC	Climate Change Technical Unit
VCS	Verified Carbon Standard
VCU	Verified Carbon Unit

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1. SITUATION ANALYSIS

1. Guatemala covers an area of 108,889 square kilometers (km^2), 36% of which (or 38,986.28 km^2) is covered by forests. The country has an extremely varied relief with a mountainous spine running from the southeast to northwest, and 37 volcanoes along the Pacific coast. The altitudinal variation, microclimatic variation, and biogeographic position of the country within the Americas (the country lies along the frontier of the Neotropical and Neoarctic regions) means that Guatemala contains numerous ecosystems, and is an area of high global biodiversity (BD) significance. Among the Central American countries, Guatemala has the highest number of ecological regions (14 Life Zones [Holdridge]), including montane ecoregions that are considered a high conservation priority at the regional level; the rainforest of the Sierra Madre, also a high priority, and Central American mixed forests, which are considered vulnerable to threats and categorized as a moderate conservation priority.

2. Guatemala has a population of approximately 14.4 million, and according to the UNDP it is ranked as 116 out of 169 countries on the Human Development Index (HDI). Fifty-one percent (51%) of Guatemalans live in impoverished conditions, and are found mostly in the country's rural areas, where the percentage of poor populations is close to 72%. Seventy-five percent (75%) of the indigenous population of Guatemala is considered poor. More than 60% of the population depends on rural activities as their means of survival. In the country's rural areas the land serves two purposes: a) economic, since it is the primary vehicle through which to develop commercial activities and generate income; and b) cultural, because of the meaning it holds for the indigenous populations, which total close to 38.4% of the country's population, according to data from the Guatemalan National Institute of Statistics.

3. According to the study "Dynamics of the Forest Coverage of Guatemala during the years 1991, 1996, and 2001 and Forest Coverage Map 2001," which was developed by the National Forest Institute of Guatemala (INAB), the National Protected Areas Council (CONAP), and Universidad del Valle of Guatemala (2006), Guatemala lost 73,148 hectares (ha) of forest annually between 1991/93 and 2001, equivalent to a rate of 1.43% per annum. Estimates of forest loss between 2001 and 2010 conducted as part of the PPG activities indicate that Guatemala lost 112,619 ha of forest annually, indicating that deforestation continues to increase in the country. The highest annual loss of forest coverage was due to agricultural expansion and the unsustainable use of forests.

4. Guatemala is also threatened by desertification and drought. The Guatemalan Ministry of the Environment and Natural Resources (MARN) estimates that the total surface area under threat of desertification is 13,151 km^2 (more than 12% of the national territory). In addition, there are natural and meteorological factors that tend to reduce moisture, making many areas susceptible to drought in the country. The approximate total land surface with high to medium susceptibility to drought is 49,430 km^2 (45.4% of country). Approximately 1,113,000 people live in the areas threatened with desertification, equivalent to 13% of the country's population. Of this total number, 387,000 are indigenous, which represents 35% of the affected population. In addition, poverty and extreme poverty affect approximately 921,252 people living in these areas, representing 14.8% of the people in the country who live under risk of drought and desertification.

5. Guatemala is considered one of the richest countries in terms of BD, which at the same time is considered to be highly threatened. The country is home to 1,246 known species of amphibians, birds, mammals, and reptiles, and 8,681 species of plants, 13.5 percent of which are endemic. Approximately 20% of bird species in Guatemala are migratory species. All of this diversity occurs in a very small area. Most of Guatemala's endemic species are found in the mountain/coniferous forests, although the tropical humid forest, the tropical rainforest, and the tropical humid savanna occupy the majority of the land. Nevertheless, the overexploitation of natural resources has had a strong impact on BD, which is reflected by the loss of 50% of pine forests and an average loss of 15% of the national forest cover. Guatemala has two of the ecoregions that are considered critically endangered at the global level (Central American pine

oak forests and dry forests in the Chiapas depression); three forest ecosystems important to the development of the country are threatened (cloud forests, coniferous forests, and tropical forests); and more than 300 animal and plant species are considered threatened or endangered.

6. Guatemala is also highly vulnerable to variations in climate. Northern Mesoamerica is a region that will be most affected by climate change. Estimates suggest that during this century the region will experience an increase in temperature of between 3°C and 7.5°C, high climate variations, and changes in the water cycle. It is expected that more than 50% of the Guatemalan territory will experience changes in bioclimatic conditions by 2050, and more than 90% by 2080 (URL & IARNA, 2011). Among the main changes expected to impact ecosystems and biodiversity in Guatemala are increased areas of dry and very dry forests, which will likely cover more than 65% of the territory in 2080. In addition, rainforest cover in the country will decrease from 80% to 60% and to less than 35% for the years 2050 and 2080, respectively. The increase in temperature would also increase the probability of forest fires, which, according to the National Forest Inventory (IFN), has affected up to 30% of the forests in the past. On the other hand, Guatemala has been affected in the last two decades by an increase in the number and intensity of hurricanes, tropical storms, and torrential rains, with consequences for the loss of forest coverage in the highlands due to landslides, as well as the accelerated loss of soil.

7. The southeastern and western regions of Guatemala are among those regions most affected by the loss of forest cover, desertification and drought, threats to biodiversity, and climate variability. The southeastern region is characterized by the presence of dry forests, which is considered one of the most threatened ecosystems in Guatemala and in Central America; it is estimated that the dry forests have lost 75% of their original coverage in the country. In addition, this region includes two of the country's departments (Jalapa and Jutiapa) with the greatest threat of desertification and highest susceptibility to droughts. The western region of Guatemala (department of Huehuetenango) is home to important extensions of Central American pine oak forests, which are considered to be the richest in diversity of coniferous trees at the subtropical level and with high levels of regional and local endemism. The region includes the Sierra de los Cuchumatanes, which hosts a high number of unique species due to its significant variation in altitude (and the diversity of microclimates).

Project Area

8. The **southeastern region** of Guatemala includes the departments of Jalapa (2,063 km^2), Jutiapa (3,216 km^2), and Santa Rosa (2,955 km^2) (see Figure 1). Project activities in this region (Pilot Region 1) will be implemented in 15 municipalities prioritized by the project. They are Jalapa, Mataquescuintla, Monjas, San Carlos Alzatate, San Luis Jilotepeque, San Manuel Chaparrón, and San Pedro Pinula (department of Jalapa), with an area of 2,029.39 km^2; Agua Blanca, Asunción Mita, El Progreso, Jutiapa, Quesada, and Santa Catarina Mita (department of Jutiapa), with an area of 1,450.74 km^2; and Casillas y San Rafael Las Flores (department of Santa Rosa), with an area of 289.39 km^2. The methodology used in determining the prioritized municipalities is presented in Annex 8.5. The departments of Jalapa, Jutiapa, and Santa Rosa include the Ayarza Lagoon watershed and the mid- and upper-parts of the Ostúa River watershed.

The **western region** consists entirely of the department of Huehuetenango (7,430 km^2) (see Figure 1). Five (5) municipalities were prioritized for project intervention: Chiantla, San Juan Ixcoy, San Pedro Soloma, Santa Eulalia, and Todos Santos Cuchumatán, which encompass an area of 1,449 km^2. The criteria used in determining the prioritized municipalities are presented in Annex 8.5.

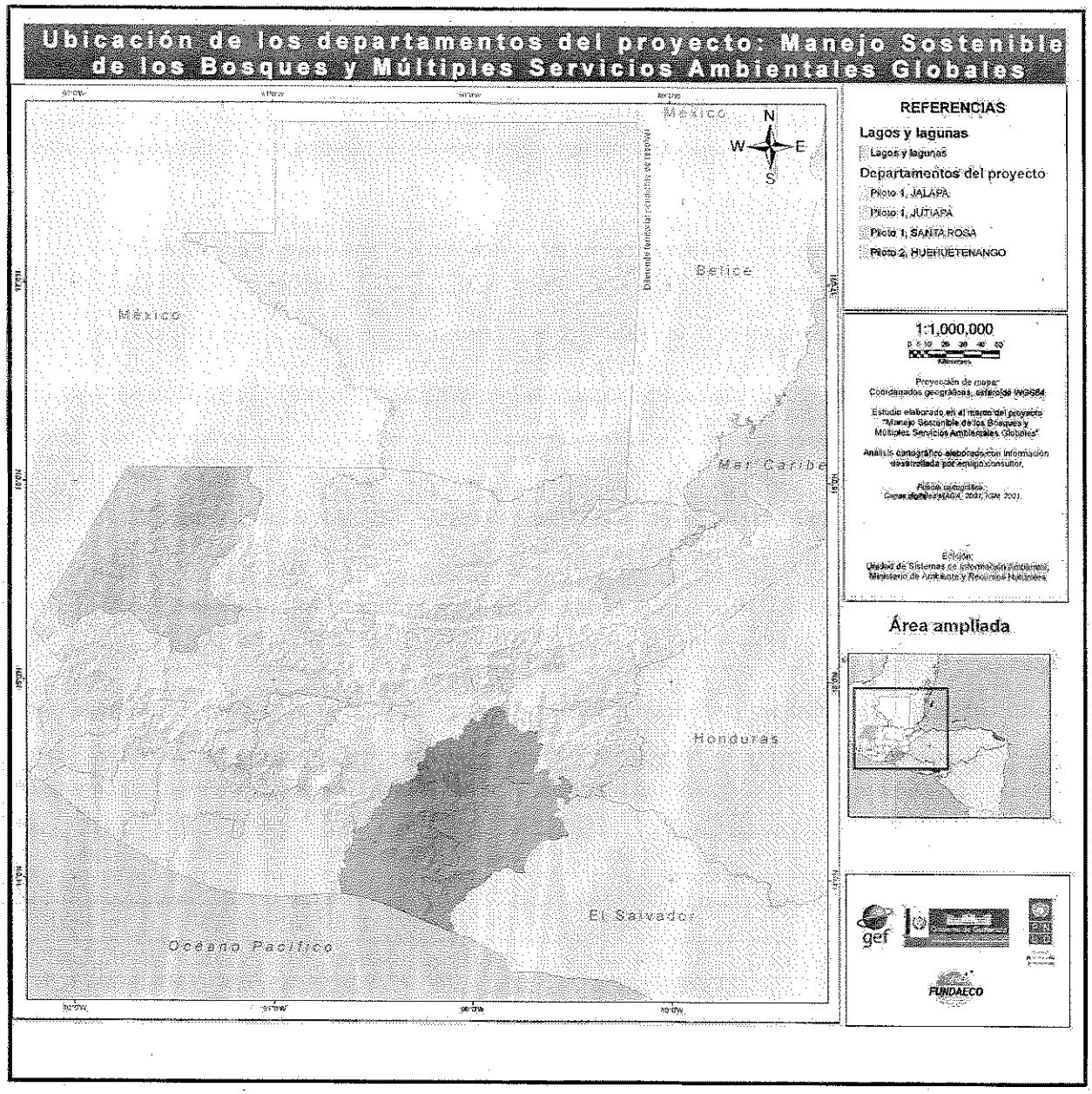

Figure 1 – Location of the departments of Jalapa, Jutiapa, and Santa Rosa (southeastern region), and Huehuetenango (western region).

1.1. Context and global significance

Environmental context

9. The **southeastern region** of Guatemala is a mountainous dry area with an average annual rainfall of 975 millimeters (mm). The region includes fragmented forests (broadleaf forest [2.58%] and mixed mountainous and sub-mountainous forests [5.66%]) shrubland ecosystems (29.92%), and to a lesser degree coniferous forests (7.40%), in a landscape dominated by small-scale agriculture. The region includes severely threatened endemic species such as the Motagua Valley beaded lizard (*Heloderma horridum charlesborgeti*), which are threatened due to loss of habitat and hunting. Other species of great ecological value in this region are bats, especially those that pollinate cacti (e.g., *Glossophaga commissarisi, Anoura geoffroyi, Leptonycteris curasoae*); the puma (*Puma concolor*); regional endemic

species such as shrews (*Cryptotis goodwini* and *Sorex verapacis*); and the Eastern Spotted Skunk (*Spilogale putorius*). The average BD index for the region is 0.3768, which is similar to national and regional averages.

10. In 2010 the total forest coverage for the three departments was 81,442 ha (Jalapa: 22,408 ha; Jutiapa: 12,730 ha; and Santa Rosa: 46,304ha). According to the forest cover change for the period from 2006 to 2010, there has been a negative change in the three departments with regard to increasing deforestation and loss of forest cover (see Table 1).

Table 1 – Forest cover change for the departments of Jalapa, Jutiapa, and Santa Rosa, 2006-2010.

Department	Coverage 2006 (ha)	Coverage 2010 (ha)	Net Change 2006 – 2010 (ha)	Annual Change (ha/year)	Annual Rate of Change (%)
Jalapa	23,417	22,408	-1,009	-202	-086
Jutiapa	15,651	12,730	-2,920	-555	-3.55
Santa Rosa	51,046	46,304	-4,472	-1,281	-2.51

Source: INAB, et al. 2012. Mapa de Cobertura Forestal de Guatemala 2010 y Dinámica de la Cobertura Forestal 2006 – 2010.

11. Only three of the 15 prioritized municipalities have a positive annual rate of change in forest cover. These are Mataquescuintla (3.31%), San Carlos Alzatate (4.8%), and San Manuel Chaparrón (8.18%) in the department of Jalapa. In the rest of the municipalities of the departments of Jalapa, Jutiapa, and Santa Rosa, the deforestation rate is negative. The loss of forest cover is due primarily to the expansion of agriculture and cattle ranching, degradation of forests through extraction of timber and firewood, forest fires, and to a lesser degree the demand for land for construction and housing development in the rural area.

Table 2 – Forest cover change for the municipalities in the departments of Jalapa, Jutiapa, and Santa Rosa, 2006-2010.

Department	Municipality	Coverage 2010 (ha)	Net change vs. 2006 (ha)	Net change vs. 2006 (%)	Annual change (ha)	Annual rate of change in (%)
Jalapa	Jalapa	9,812.61	-1,060.11	-9.75	-210	-1.93
	Mataquescuintla	6,121.8	629.1	11.45	182	3.31
	Monjas	410.58	-120.24	-22.65	-23	-4.30
	San Carlos Alzatate	1,964.07	396.81	25.32	75	4.80
	San Luis Jilotepeque	656.37	-194.85	-22.89	-37	-4.34
	San Manuel Chaparrón	95.04	28.62	43.09	5	8.18
	San Pedro Pinula	3,348.81	-687.87	-17.04	-1.31	-3.23
Jutiapa	Agua Blanca	286.2	-117.18	-29.05	-22	-5.51
	Asunción Mita	644.04	-118.19	-22.61	-36	-4.29
	El Progreso	52.11	-9.09	-14.85	-2	-2.82
	Jutiapa	3,883.32	-871.83	-18.33	-165	-3.48
	Quesada	414.81	-177.57	-29.98	-34	-5.69
	Santa Catarina Mita	825.39	-220.32	-21.07	-42	-4.00
Santa Rosa	Casillas	3673.63	-969.75	-20.88	-223	-4.80
	San Rafael Las Flores	611.82	-599.04	-49.47	-1-40	-11.57

12. In the 15 prioritized municipalities of the southeastern region of Guatemala, the topography ranges from flat to slightly sloped, from a height of 500 meters above sea level (masl) in the municipality of

Asunción Mita (Jutiapa) up to 2,600 masl in the upper parts the Ostúa River watershed and Los Esclavos River watershed. The soils of the Ostúa River watershed have rocky outcroppings, are poor, and present severe limitations for agriculture, thus producing low yields. Their potential use is as forest and grasslands; soils are very abruptly sloping and/or are very superficial. However, there is a high demand for land to be used for agriculture, which is manifested in the indicators for the land use change[6], which for the seven prioritized municipalities in Jalapa is 0.32, for the six prioritized municipalities in Jutiapa is 0.32, and for the two prioritized municipalities in Santa Rosa is 0.31.

13. The demand for land for agriculture and other activities contributes to soil degradation. The indicator for physical deterioration of soil due to overuse[7] in the seven prioritized municipalities in Jalapa is 0.59, in the six prioritized municipalities in Jutiapa it is 0.53, and in the two prioritized municipalities of Santa Rosa it is 0.51. The unsustainable use of soils is also reflected in the rate of deforestation, which in the mid- and upper parts of the Ostúa River watershed has led to the loss of forest cover, in turn affecting the water retention and infiltration capacity of the soils. The latter is manifested in the indicator for the level of hydrological protection of the vegetation to the soil[8], which for the seven prioritized municipalities of Jalapa is 0.47, in the six prioritized municipalities of Jutiapa is 0.74, and in the two prioritized municipalities of Santa Rosa is 0.44.

14. In the Los Esclavos River watershed (municipality of Mataquescuintla in the department of Jalapa and municipalities of Casillas and San Rafael Las Flores in the department of Santa Rosa) the rate of erosion is 65 tons per ha per year (t/ha/year), and in the Ostúa-Güija watershed, which includes the other prioritized municipalities, the rate is 30 t/ha/year. This situation of loss of soil and unsuitable land use has an impact on the headwaters of the watersheds and their ability to capture and regulate water, as the level of degradation of the Ostúa-Güija is "high" in a surface area of 30,991.70 ha and "medium" in an area of 20,508.90 ha. The overuse of the available land, deforestation, the establishment of clean crops, grazing, and overgrazing on steeply sloping land, and the lack of soil conservation practices are the principal causes of erosion.

15. The southeastern region of Guatemala is threatened by desertification and drought, and most of the region is located within the "dry corridor." The total land surface under threat of desertification in Jalapa is 39.2%, with all municipalities at risk; however, San Pedro Pinula, Jalapa, San Luis Jilotepeque, San Manuel Chaparrón, and Monjas are the municipalities the most threatened. In the department of Jutiapa, 28.4% of the land is threatened by desertification; the municipalities of Agua Blanca, Santa Catarina Mita, El Progreso, and Jutiapa are the most threatened. Santa Rosa is the least threatened, with only 3.8% of the land affected; in this department, the municipality of Casillas is the most critical. Similarly, the region is susceptible to droughts, primarily in the municipalities of San Pedro Pinula, San Luis Jilotepeque, San Manuel Chaparrón, and Monjas in the department of Jalapa; Agua Blanca, Santa Catarina Mita, Jutiapa, and Asunción Mita in the department of Jutiapa.

16. The higher parts of the municipalities of Mataquescuintla, Jalapa, San Carlos Alzatate, San Pedro Pinula, Casillas, and San Rafael Las Flores are commonly affected by forest fires and landslides. The landslides have been attributed to the lack of forest cover, agricultural activities on terraced slopes, and the scarce application of soil conservation practices. In addition, water resources have been nearly exhausted, and agrochemicals have been used inappropriately, resulting in direct contamination of the water resources.

17. In the **western region** of the country along the boundary with Mexico, the department of Huehuetenango (7,403 km^2; see Figure 1) covers almost the entire longitude of the Sierra de los

[6] The change in cover of different land uses within a determined time interval.
[7] The relation of the land surface within the municipality with a use not suitable for its capability with regard to total land surface of the municipality.
[8] The indicator for the level of hydrological protection of the vegetation to the soil.

Cuchumatanes (the highest non-volcanic mountain chain of Central America). This mountain chain is characterized by significant altitudinal differences along its entire length (from 300 to 3,352 masl) with a variety of ecosystems, including low mountain pine-oak, mountain rainforest, lowland mountain rainforest, grass and shrublands, and subtropical rainforest. The region is a center of BD and serves as refuge for dozens of threatened endemic animal and plant species, such as the Guatemalan fir (*Abies guatemalensis*), the horned guan (*Oreophasis derbianus*), the highland guan *(Penelopina nigra*), and the quetzal (*Pharomachrus mocinno*). Huehuetenango presents the greatest coverage of coniferous forests in the country (74,501 ha). Broadleaf and mixed forests (10.13% and 10.24% of the region, respectively) are also present.

18. In 2010 the total forest coverage for the five prioritized municipalities in the western region was reported at 53,332.83 ha. A forest cover change analysis performed by INAB in 2012 showed that for the period from 2006 to 2010, there was a recuperation rate of 6,346 ha/year, which is equivalent to a 2.61% increase per year during the time period analyzed. Information regarding the forest cover change for 2006 to 2010 for the prioritized municipalities is presented in Table 3.

Table 3 – Municipal-level forest cover information for the prioritized municipalities in the department of Huehuetenango.

Department	Municipality	Coverage 2010 (ha)	Net change vs. 2006 (ha)	Net change vs. 2006 (%)	Annual change (ha)	Rate of annual change in (%)
Huehuetenango	Chiantla	6,759.27	2,043.99	43.35	670	14.21
	San Juan Ixcoy	8,680.59	2,518.02	40.86	820	13.31
	San Pedro Soloma	14,865.12	2,574.27	20.94	800	6.51
	Santa Eulalia	13,779.90	2,584.62	23.09	813	7.26
	Todos Santos Cuchumatán	9,247.95	545.49	6.14	176	1.98

Source: INAB, et al. 2012. Mapa de Cobertura Forestal de Guatemala 2010 y Dinámica de la Cobertura Forestal 2006 – 2010.

19. The recuperation of the forest cover is due principally to forest management and reforestation activities developed by INAB) through the Forest Incentive Program (PINFOR) and the Incentive Program for Small Holders of Land Suitable for Forestry or Agroforestry (PINPEP), as well as conservation activities developed by local (municipal) authorities with support from environmental non-governmental organizations (NGOs) dedicated to forest conservation, rural development programs, and local community organizations. However, although the forest cover has increased, informal forest management activities and timber extraction have stayed the same.

20. The five prioritized municipalities in the western region are located at more than 2,000 masl. The region includes poorly draining soils and steep slopes (between 32 and 70%). Agricultural production activities have led to increased pressure on the soil; this is reflected in the indicator for physical deterioration due to overuse of the soil, which is equivalent to 0.33. Despite this increase in forest cover, there are large areas without forest cover or with degraded forest, which is reflected in the indicator for the level of hydrological protection of the vegetation to the soil (0.83). Rivers within the region present erosion rates ranging from 13 t/ha/year to up to 75 t/ha/year. In areas where the soil loss is high, water storage and regulation capacity of the soil has been largely reduced.

Socioeconomic context

21. The **southeastern region**, comprising the departments of Jalapa, Jutiapa, and Santa Rosa, covers an area of 8,234 km^2, which is 7.56% of the national territory. It is one of the least populated areas of the country, with 1,086,361 inhabitants (7.49% of the country's total population) and a population density of 146.66 inhabitants/km^2. The region consists of 38 municipalities, with an average population growth index of 1.75%. The urban population in the region is 31.4%, the rural population is 68.6%, the ladino

population is 97.16%, and the indigenous population is 2.84%. The predominant ethnicities are Maya-Pocomames and Xincas in Jalapa; Xincas, Pupulucas, and Pipiles in Jutiapa; and the Xincas in Santa Rosa. The distribution of men and women is 48.30% and 51.69%, respectively. Sixty-one (61) % of the population is classified as poor, and 18.48% are extremely poor. There are few opportunities for labor or employment; and 75.76% of the population is classified as illiterate. The few economic opportunities available in the region have created a flow of migrants principally to Guatemala City, other departments, and to the United States. The HDI for the region is 0.64.

22. The region has an "economically active" population of 44.86%, 64.6% of which works in agriculture (the main production activity), primarily in the production of basic grains, vegetables, and livestock. In the department of Jalapa, 27.71% of the land is used for agriculture[9], 53.48% of the land consists of shrubs and bushes, 17.33% are natural forests, and 1.48% is used for other purposes. Farmers plant on sloped terraces without implementing soil conservation practices. The topography in the department of Jutiapa is very sloped, which limits the development of agriculture; 40.71% of the land is used for agriculture, 48.97% consists of shrubs and bushes, 7.72% are natural forests, and 2.59% are used for other purposes.; Most of the soils in the department of Santa Rosa are not suitable for clean cultivation, but are used as such in any case. Agriculture covers 59.58% of the land[10], 27.42% consist of shrubs and bushes, 9.2% are natural forests, and 3.79% are used for other purposes. The lack of clarity over land ownership and land use rights are persistent problems in the majority of the municipalities; this prevents many rural people from practicing agriculture or other land-related production activities and keeps many families impoverished. Communal lands in the region cover 13.83% (114,476 ha).

23. The prioritized municipalities in the southeastern region have a total population of 598,832 inhabitants and a population density of 159.47 inhabitants/km^2, with an average population growth index of 1.96%. The urban population in these areas represents 34.74% of the total for the country, and the rural population comprises 65.26%. The ladino population represents 91.79% and the indigenous population represents 8.21%. The predominant ethnicities are the Poq'omam Xinca in Jalapa and the Xinca, Garifuna, K'iche, Kaqchiquel, and Q'eqchi in Jutiapa. The distribution of men and women is 48.69% and 51.31%, respectively. 62.99% of the population is classified as poor, and 21.58% is classified as extremely poor. This is reflected in the few opportunities of labor and employment. The HDI for these areas is 0.60.

24. Conflicts persist in relation to land ownership. For example, the municipality of Jalapa is threatened by strong conflicts relating to land ownership in the community of Santa María Xalapán, which go back to colonial times; local communities claim land rights obtained from the Kingdom of Spain, which historically have not been recognized by the Government of Guatemala (GoG). Different types of land ownership exist in the 15 prioritized municipalities. In the municipalities of Jalapa, San Carlos Alzatate, San Luis Jilopeteque, and San Manuel Chaparrón, there is a high proportion of land that is communally owned, which continues to give rise to conflicts over the land. In the municipalities of Mataquescuintla and San Pedro Pinula, there are a high proportion of municipal lands. In the remainder of the municipalities land ownership is primarily private. In all of the municipalities there are "latifundios" (large farms that belong to one owner) and "munifundios" (small farms that belong to several owners). The average Gini coefficient for the prioritized municipalities is 0.71.

25. The department of Huehuetenango in the **western region** is divided into 32 municipalities. The region's population is 1,114,373 inhabitants (7.68% of the country's total population) and a population density of 150 inhabitants/km^2. The urban population in the region comprises 21%; the rural population

[9] MAGA. 2003. Mapa de Cobertura Forestal y Uso de la Tierra a escala 1:50,000 de la República de Guatemala. Data for five annual crops for 2005 was also considered.
[10] MAGA. 2003. Mapa de Cobertura Forestal y Uso de la Tierra a escala 1:50,000 de la República de Guatemala. Data for five annual crops for 2005 was also considered.

comprises 79%. The percentage ladino population is 35%, and indigenous represent 65% of the population. Indigenous groups are the Man, Q'anjob'al, Popti' (Jakalteco), Chuj, Akateko, K'iché, Awakteko, Tektiteco, and Chaltiteko. The distribution of men and women is 47% and 53%, respectively. Seventy-one percent (71%) of the population is classified as poor, and 22% is classified as extremely poor. Educational opportunities are limited, which is reflected in the rate of illiteracy among men (74.87%) and women (89.03%).

26. Agriculture is the primary economic activity, with 71% of the department's "economically active" population working in this sector; however, unemployment is high. The principal crop is coffee; the department is the third largest producer of this in the country. Revenue from the department in recent years from coffee cultivation has been on the order of $62.5 million USD annually; however, the benefits have not been equitably distributed. The second most important crop is cardamom, which is grown in the northern region due to its higher temperature conditions. Other important crops are potatoes, garlic, and onions. Livestock include chickens, pigs, and sheep, the latter in the highest part of the Serranía de los Cuchumatanes. The land use intensity map for the region (Ministry of Agriculture, Cattle Ranching, and Nutrition [MAGA], 2003) shows that 40% of the land is being used suitably (mainly for forestry and agriculture), 22% is "sub-used," and 38% is "overused." 35.91% of the land is covered with forest, 35.57% by shrubs and bushes, 28.69% is devoted to agriculture (basic grains, perennial crops, pasture, and vegetables), and 0.83% to other uses. The food security vulnerability index is classified as high.

27. As mentioned previously, the forest cover in the region presented an increase during 2006-2010 (2.61%). This was due primarily to natural regeneration, sustainable forest management, and reforestation, most of which occurred on communal and municipal lands. In the department of Huehuetenango it is estimated there are 127 communally owned properties, comprising a surface area of 65,630 ha; nevertheless, pressure on the forest is maintained due to population growth, which is at an annual rate of 3.7%.

28. The HDI for Huehuetenango is 0.644. The scarce opportunities for labor and employment cause a flow of migrants primarily to Guatemala City and to the United States. This region is among those with the largest number of migrants in the country; more than 70% of households in all of the department's municipalities receive remittances, which in 2007 were on the order of $342 million USD. Economic participation for women in the region is primarily through business (69%) and agriculture (24%).

29. The total population of the five (5) prioritized municipalities is 255,715, with a population density of 143 inhabitants/km^2 and a population growth rate of 4%, which is above the national average. The urban and rural population distribution is 15.57% and 84.43%, respectively. The ladino population is 5.78% and indigenous is 94.23%, with Man and Q'anjob'al as the predominant ethnicities. The distribution of men and women is 49.62% and 50.38%, respectively. On average 84.59% of the population is classified as poor, and 30.59% is classified as extremely poor; 69.70% of the population is illiterate. The HDI for the region (0.50) reflects these conditions.

30. Four (4) of the five prioritized municipalities depend economically on agricultural activities, producing crops for local and family consumption; such as corn, beans, and potatoes. The sale of cattle, sheep, chickens, and pigs is used to generate additional income. Another economically important activity in Todos Santos Cuchumatán and Chiantla is the manufacture of artisanal crafts. Crops, such as broccoli and coffee are also grown in the region to sell in local and regional markets, and also for exportation. These crops generate sources for local employment and in some cases become profitable. Potatoes are also sold in local markets, but at a lesser scale than the products mentioned previously. Crafts serve to complement income for families. In the case of San Pedro Soloma, remittances due to migration (mainly to the U.S.) and trade are the principal economic activities.

31. Despite the population growth and pressure put on land for agricultural production and cattle ranching, the change in forest cover was positive in the five municipalities for the time period from 2006 to 2010. This is due to the primary land ownership regime, which consists of large areas of communal

lands. All of the municipalities have regimes such as municipal-owned lands, communal lands, and privately owned lands, on which reforestation, forest management, and protection and conservation activities have been carried out among the municipalities and the population, and where the intervention of INAB's PINFOR and of various NGOs and local associations working on environmental conservation has been key for increasing forest cover.

Legal and institutional context

32. There are at least 20 policies in Guatemala that are related to BD, soil degradation, climate change, and sustainable forest management. Several of these policies are cross-cutting and include two or more of the aspects related to the Global Environment Facility (GEF)'s focal areas that address the project proposed herein.

33. BD conservation in Guatemala is founded upon several agreements and statements issued at the international level, the most important ones being the Convention on Biological Diversity (CBD) and the Central American Convention on Biodiversity (1992). Among the existing policies, one of the most relevant with regard to BD conservation and management is the National Policy for Biological Diversity (Agreement 220-2011), whose purpose is to provide a guiding and articulating framework for actions by the State, stakeholders related to BD management, and Guatemalan society to legislate, secure, and ensure the adequate and efficient conservation and sustainable use of BD. In addition, the framework defines the responsibilities, obligations, rights, and attributes of each of the stakeholders and sectors involved. At the same time, the Policy for Conservation, Protection, and Improvement of the Environment and Natural Resources (MARN, 2007) has the following objectives: a) to conserve and protect the environment and natural resources; b) to improve environmental quality; c) to promote the use and sustainable management of natural resources; and d) to promote environmental restoration.

34. The Institutional Policy of Indigenous Communities and Biodiversity (CONAP, 2009) recognizes that Guatemala is a multicultural, multilingual, and multiethnic country in which customary rights, consultation processes, payment for environmental services to indigenous communities, recognition and valuation of indigenous women, and ancestral knowledge and practices for the management, protection, and use of BD by the indigenous communities according to their world view, are recognized. This policy is relevant for application in the western region, where the project will be implemented (department of Huehuetenango), and where the indigenous represents 94.23% of the population (Mam and K'anjobal' ethnicities).

35. Guatemala's public administration is decentralized into municipalities, and according to the Municipal Code (Decree 12-2002), all administrative responsibility falls upon the Municipal Council, which has among its powers the promotion and protection of the environment. Forestry or environmental management offices have been established in some municipalities, which are charged with the management of municipal forests and municipal protected areas (PAs). Additionally, they support the creation and implementation of forestry and environmental educational programs in their municipalities, and are charged with promoting the policies, strategies, and the programs that the INAB implements, as well as providing support in enforcing the Protected Areas Law.

36. Guatemala has also ratified the United Nations Convention to Combat Desertification (UNCCD, 1994); nevertheless, Guatemala still does not have specific policy or legislation in place pertaining to land degradation. The Agricultural Policy (2008-2012) (MAGA) is among the related current policies in place, and has the following strategic objectives: a) to promote the appropriate use of renewable natural resources, water, soil, forest, and BD based on land use planning to ensure the sustainability of these resources; and b) to promote agricultural sustainable development with the participation of public, private, and civil society sectors, associations, cooperatives, NGOs, universities, professional schools, and others. The MARN has developed the National Action Program to Combat Desertification and Drought (PROANDYS), which incorporates themes such as land management, but does not define public policies or specific legislation. In addition, the Environmental Protection and Improvement Law (Decree 68-86)

includes some statements in relation to desertification; it indicates that the Executive Branch of government, through the National Commission on the Environment, will issue regulations related to "the conservation, salinization, desertification, and aridification of the landscape," among other aspects.

37. Guatemala currently has a National Forest Policy (MAGA/PAFG/INAB/CONAP, 1999), which defines a set of norms and the institutional structure to guarantee the provision of goods and services by the forests (natural or cultivated) for the social and economic well-being of its population. The related policy instruments include: a) The Forestry Law (Decree 101-96 and its amendments); b) Regulation of the Forestry Law (Resolution 4.23.1997); c) specific regulations by the INAB (Regulation of Changes in Land Use, Regulation for the Protection of Water Sources, Regulation of Transport of Forest Products and Sub-Products); and d) PINFOR and PINPEP. The National Forest Policy also establishes that the municipalities shall work with the INAB in forest management in order to comply with the law, and that the municipalities shall develop, approve, and implement development plans for the local use of forest resources.

38. The National Forest Policy is being reviewed by the INAB, and there is a new proposal being considered entitled "National Forest Policy of Guatemala, Vision 2022." This new policy presents six themes, among which the following are highlighted: a) promotion of sustainable forest management; b) ensuring the sustainability of forests that provide ecosystem services; and c) strengthening institutional capacities for forest management. One of the instruments for implementing this policy is the National Strategy for Reduction of Deforestation. Under the leadership of the MARN, the Interinstitutional Coordination Group (GCI) has been formed and has developed the Readiness Preparation Proposal (R-PP, 2012) for Guatemala. The GCI is covered by the collaborative agreement between the MARN-MAGA-INAB-CONAP. The R-PP gathers the fundamental elements for the preparation of the Reduction of Emissions from Deforestation and Degradation of Forests (REDD+) National Strategy. The proposal considers the following four components: a) organization and consultation; b) preparation of the REDD+ National Strategy; c) development of the national baseline; and d) development of a Monitoring, Reporting, and Verification (MRV) system.

39. Guatemala has ratified the Vienna Convention on Protection of the Ozone Layer (1985), the United Nations Framework Convention on Climate Change (UNFCCC, 1992), and the Kyoto Protocol (1997). The National Policy on Climate Change has been established to ensure compliance with these agreements, and has as its objective compliance with the Millennium Objectives, with an emphasis on the reduction of poverty. The scope of the policy includes reducing vulnerability to extreme climatological events, the reinforcement of adaptability and making use of opportunities to reduce greenhouse gas GHG) emissions, and the use of carbon (C) markets.

40. The institutions involved in the administration, application, and regulation of the legal framework for environmental, land use planning, BD conservation and management, and forest management themes are numerous. Those institutions with a direct link to the project include the MARN, MAGA, INAB, CONAP, and the Secretariat of Planning and Programming of the Presidency (SEGEPLAN). At the local level, all administrative responsibility falls upon the Municipal Council, which has among its powers the promotion and protection of the environment (Municipal Code, Decree 12-2002). Municipal Forestry Offices (MFOs) or Municipal Offices for Environmental Management (MOEMs) are responsible for the management of forests and the environmental locally.

1.2. Deforestation, land degradation, and BD threats, impacts, and root causes

Deforestation

41. The historical causes of loss of forest cover in the country are still present. The expansion of agricultural and cattle ranching activities, urban development, forest fires, encroachment of PAs, illegal logging, the use of firewood in rural areas, forest pests, and natural disasters are among such causes. The drivers of deforestation in Guatemala, including the western and southeastern regions where the project

will be implemented, can be divided into three categories: a) structural drivers, b) direct drivers, and c) indirect drivers.

42. The main **structural drivers** of deforestation are high demand for land, unequal land rights, the complexity of property rights regimes, very high levels of population growth, limited access to employment and services, and insecurity and inequality related to land and income distribution. This is more evident in areas of the country where forests are replaced with cattle ranching, agroindustry for export, or where there is a lack of opportunity for livelihood: areas are deforested for cultivation to extract firewood for cooking, or timber products are traded illegally. Additionally, a long history of ill-advised public policies and policy instruments, such as soft loans, easy access to land, agricultural incentives and trade, industrial development, and technology transfer, have all further sidelined interest in forestry activities and the sustainable production of environmental goods and services[11].

43. The **direct drivers** of deforestation in Guatemala include: a) **Land use change**: The constant expansion of agricultural areas continue to contribute to the conversion of forests. The rates of deforestation between 1991/1993 and 2010 (19 years, see Table 4) for departments in the southeastern region were the following: Department of Jalapa, -2.93; Department of Jutiapa, -3.39; Department of Santa Rosa, -1.78. The rate of deforestation during this period in the western region, Department of Huehuetenango, was 0.41. b) **Firewood consumption**: 64% of households in Guatemala depend on firewood for cooking and heating, especially in poor rural areas[12]. It is estimated that 23 million cubic meters of firewood are consumed per year. According to the National Energy Balance, during 2010 firewood consumption in Guatemala reached 37,253 Ktoe[13]; the highest demand comes from residential units which account for 97% of the firewood used[14], especially in rural areas. This activity contributes significantly to forest degradation (especially tree structure) through the selective extraction of woody biomass. The average rate of firewood consumption in the urban areas of the southeastern region is 1.2 m^3/person/year[15] and the average rate of firewood consumption in the rural area is 2.5 m^3/person/year. In the western region (department of Huehuetenango) the average rate of consumption in the urban area is 2.3 m^3/person/year and the average rate of consumption in the rural area is 4.6 m^3/person/year. c) **Forest fires:** 30% of forest fires are related to agricultural activities. Wildfires affected more than a quarter of a million hectares of forests between 2000 and 2008. During the period from 2000 to 2013, in the southeastern region, forest fires have affected 19,439.23 ha[16] in the Department of Jalapa, 2,098.47 ha in the Department of Jutiapa, and 5,118,62 ha in the Department of Santa Rosa. In the western region, Department of Huehuetenango, forest fires have affected 5,408.72 ha. d) **Illegal logging**: although first hand data are not available for the project's prioritized regions, national estimates indicate that illegal logging represents about 30 to 50% of commercial wood volume each year (the controlled volume of wood is between 1 to 1.2 million m^3 per year)[17]. e) **Pests and diseases**: Several pests and diseases have affected the pine forests. During 1980, 100,000 hectares of pine were destroyed by the pine weevil (*Dendroctonus sp.*)[18]; pines forests are widely present in Guatemala's western and southeastern highlands.

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[11] IARNA/URL and IIA. 2004. Informe sobre el estado del ambiente y bases para su evaluación sistemática. Perfil Ambiental de Guatemala. Guatemala: Rafael Landívar University/Institute of Agriculture, Natural Resources, and Environment.
[12] BANGUAT-URL and IARNA. 2009. Cuenta Integrada de Energía y Emisiones (CIEE). Guatemala, Serie divulgativa No. 6, 22 p.
[13] Ktoe = Thousands of barrels of oil equivalent. Toe: the amount of energy released by burning one ton of crude oil.
[14] Martín, M. (2012). Oferta y demanda de leña en la República de Guatemala. Woodfuel Integrated Supply / Demand Overview Mapping. Guatemala: FAO.
[15] INAB-URL/IARNA-FAO. 2012. Oferta y demanda de la leña en la República de Guatemala/Woodfuel Integrated Supply/Demand Overview Mapping. Guatemala. FAO/GFP/Facility. 70 p.
[16] INAB. Departamento de Protección Forestal, 2013.
[17] Guatemala R-PIN. 2008. Available at www.forestcarbonpartnership.org, Accessed 01/2013.
[18] Idem.

Table 4 – Forest cover change for the 1991-2010 period. Southeastern Region: Departments of Jalapa, Jutiapa, and Santa Rosa; and Western Region: Department of Huehuetenango.

		Southeastern Region			Western Region
		Jalapa	Jutiapa	Santa Rosa	Huehuetenango
Forest Cover Change (1991, 1996, and 2001)	Cover 1991/93 (ha)	50,594.00	35,829.00	70,064.00	244,492.00
	Net Change 1991 to 2001 (ha)	-7,190.00	-7,842.00	-2,691.00	-30,996.00
	Rate of Change (ha/year)	718.00	778.00	259.00	3,091.00
	Annual Rate of Change (%)	-1.42	-2.17	-0.34	-1.26
Forest Cover Change (2001 – 2006)	Cover 2006 (ha)	23,159.00	15,676.00	49,448.00	235,291.00
	Net Change 2001 to 2006 (ha)	-2,953.00	-2,460.00	1,098.00	15,334.00
	Rate of Change (ha/year)	-594.00	-511.00	191.00	2,954.00
	Annual Rate of Change (%)	-2.27	-2.82	0.40	1.34
Forest Cover Change (2006 – 2010)	Cover 2006 (ha)	23,417.00	15,651.00	51,046.00	243,523.00
	Cover 2010 (ha)	22,408.00	12,730.00	46,304.00	263,470.00
	Net Change 2006 to 2010 (ha)	-1,009.00	-2,920.00	-4,472.00	19,947.00
	Rate of Change (ha/year)	-202.00	-555.00	-1,281.00	6,346.00
	Annual Rate of Change (%)	-0.86	-3.55	-2.51	2.61
Forest Cover Change (1991/1993 to 2010)	Net Change 1991/93 to 2010	-28,186.00	-23,099.00	-23,760.00	18,978.00
	Annual Change (ha/year), taken during a period of 19 years	-1,483.47	-1,215.74	-1,250.53	998.84
	Rate of Change, taken during a period of 19 years (%)	-2.93	-3.39	-1.78	0.41

44. The **indirect drivers** of deforestation include: a) **High unemployment rate in the rural areas**: Poverty and deforestation can be associated with the frequently low offering of non-agricultural-related jobs in the rural area. The lack of other income-generating opportunities and the lack of land available for agriculture, forces the rural population to work in low-paying activities or to transform forests into unsustainable agricultural systems for farming. b) **Institutional weakness in monitoring and control**: Institutional weakness in monitoring and control is mainly due to: i) weaknesses in public institutions to manage and control forest use, little enforcement of related regulations, and lack of coordination among the institutions in charge of sectorial public policy related to the forest and environmental sector; ii) weak institutional presence in the rural areas, including a lack of qualified technical experts and equipment in the municipal offices, who would be tasked with managing forest and environmental issues; and iii) the scarce allocation of public funds for forestry-related institutions. Additionally, weakness and lack of coordination among the institutions responsible for sectorial public policy is an indirect cause of deforestation. There is a scattering of responsibilities among the MARN, MAGA, INAB, Ministry of Energy and Mines (MEM), Ministry of Communications, Infrastructure, and Housing (CIV), CONAP, The Land Fund, Office of State Land Reserves (OCRET), Registry of Cadastral Information,

SEGEPLAN, among others. The mechanisms for coordination of activities geared towards preventing deforestation within the public institutions and non-governmental organization are also weak. c) **Culture of clean crops**: The culture of clean crops is related to an annual basic crop. In Guatemala, the cultivation of corn has forced inhabitants to deforest big tracts of land; corn has been harvested without taking into account soil conservation practices and structures. d) **Public Policies**: Public policies historically have been oriented exclusively towards development of farming, including encouraging farming activities in forests or rainforest lands. In general, policy instruments such as soft credits, land access, farming incentives, and technology transfer to encourage industrial development have not included environmental goods and production of services, with the exception of the funds designated for PINFOR and PINPEP.

45. According to the cause/effect analysis performed by INAB (2008) in which the direct and indirect factors that drive deforestation were related, it was shown that Education and Public Policies were the most influential on other factors. The factors that are most influenced by other factors are change in land use, illegal logging, and the economic model that promotes social and economic inequality and increased poverty. It was concluded that the problem of deforestation and the responsibility for it is beyond the Forestry sector's power and hence the institutions responsible for forest resource management.

Threats to Biodiversity

46. The threats to BD in the western region of Guatemala (department of Huehuetenango) are multiple. Among these, loss, degradation, and fragmentation of habitat, water contamination, overgrazing, forest fires, and CC are the major threats. These threats and their impacts, as well as their underlying causes, are summarized in the following paragraphs.

47. **Loss, degradation, and fragmentation of habitat:** Although five prioritized municipalities in the western region (Department of Huehuetenango) presented positive rates of change in forest cover between 2006 and 2010, there have still been important losses of key habitat for BD. This loss has negative implications in one of the regions of the country with the number of endemic species where populations of one species can be reduced with the elimination of small forest patches or other natural ecosystems. For example, the elimination of mature trees with high densities of epiphytes may mean the elimination of an entire population of amphibian species with very specialized habitats that use bromeliads and mosses as refuge during the dry season. A study performed in 2002 refers to the negative impact that the elimination of riparian forests in the municipality of Chiantla can have on native species of the *Bufo bocourti* toad, since this species uses small lagoons to reproduce and lay eggs, and the elimination of these forests will bring about the drying up of these small bodies of water. In addition, the elimination or degradation of mature cloud forests in the region has a negative impact on several species of frog, genus *Plectrohyla*, as they are unable to adapt to degraded habitats. Other species affected by the elimination of mature forest is the reptile *Sphenomorphus incertu*. This species is restricted to barely touched forests in spaces with a high accumulation of litter fall. At elevations of 2,400 to 2,500 masl, the species that are at greatest risk due to the elimination of habitat are the amphibians *Bolitoglossa hatwegi* and *Dendrotriton cuchumatanus* and the reptile *Mesaspis moreleti.*

48. Regarding vegetation, local and regional endemic varieties are the most affected. In the region approximately 70 local-regional species are found. Each time a natural ecosystem is eliminated important populations of the species may be lost. The most affected by loss of habitat are the 33 species that are included in CONAP's Red List. Some of the endemic species included in the list are: *Abies guatemalensis, Tauschia steyermarkii, Achaetogeron guatemalensisi, Calea guatemalensis, Cirsium skutchii, Cuchumatanea steyermarkii, Eupantorium nubivagum, Lagenophora cuchumatanica, Sigesbeckia nudicaulis, Hackelia skutchii, Cardamine eremita, Cerastium juniperorum, Hyperiucm calcicola, Garrya corvorum, Gentiana guatemalensis, Oxalis calcicola, Hordeum guatemalensis, Muhlenbergia clacicola, M. orophila, Montia calcicola, Castilleja altorum,* and *Symplocus vatteri*. The majority of the species on the list are from the Orchidaceae and Cactaceae families.

49. Mammals are also affected by loss of habitat, especially larger mammals that require extensive surface areas to maintain their populations. The visual reports of large mammals are more and more scarce, in fact it is possible that the only refuge for species such as the puma (*Puma concolor*) and deer (*Mazama temama*) are the continuous extensions of forest in Cerro Cruz Maltin and Montaña Tzucanca in San Pedro Soloma. Populations of medium-sized mammals such as the coyote (*Canis latrans*) and fox (*Urocyon cinereoargenteus*) still in existence may be reduced even more if deforestation and fragmentation continue in Todos Santos Cuchumatán. Among the small mammals, the rats *Reithrodontomys microdon* and *Reithrodontomys tenuirostris*, which are specialized species of the high pine forests and tall grasslands (3,000 masl), are the most affected by habitat loss, since they are intolerant to ecological changes.

50. **Contamination of water bodies**: Water bodies in the department of Huehuetenango are contaminated principally by household and agricultural wastes, which are usually discharged directly into streams and lakes. The use of agrochemicals, including fertilizers and pesticides (insecticides, fungicides, and herbicides) is common and the water bodies are contaminated directly through washing of agrochemical containers or by simply throwing the containers into the water bodies, or indirectly by runoff. In areas of coffee production in the department of Huehuetenango, the application of agrochemicals is particularly critical since it is usually done without consideration of the threat this poses to aquatic BD. The region also has a problem with solid waste disposal, which is characterized by infrequent collection, improper disposal, and lack of awareness among rural and urban populations about the environmental impacts. Solid waste may end up in local streams, clogging them and reducing downstream flow, contributing to the contamination of local water sources. Only 17% of the households in the municipalities in the region are connected to sewer systems.

51. **Overgrazing**: In some areas, excessive grazing also constitutes a threat, since sheep damage natural forest regeneration and compact the soil. Additionally, overgrazing promotes erosion. In particular, overgrazing by sheep may affect endemic species like the Guatemalan fir (*Abies guatemalensis*) and local endemic herbaceous species. In reforested areas, overgrazing prevents seeding from establishing and growing and efforts to increase forest cover are lost.

52. **Forest fires:** Forest fires play a role in the loss of forest cover, the forced migration of animal species, and habitat fragmentation. Forest fires in the department of Huehuetenango are generally due to the traditional practice of slash and burn, and fires that are unintentionally caused by other human activities. There are no precise data for forest fires among the project's prioritized municipalities, but it is known that in the department of Huehuetenango approximately 150 ha of forest, primarily pine, oak, and cypress, have been affected. Although none of the five municipalities are on the list of municipalities with the highest occurrence nationally, forest fires can cause the elimination of individuals or whole populations of locally endemic species, or lead to narrowly distributed species like small mammals.

53. **Climate change**: The impacts of CC are already evident, and will have drastic consequences in the short and medium term on the ecosystems and BD of Guatemala. The main negative effects of CC on ecosystems are related to the increase in temperature, which implies higher water demands of the vegetation (evapotranspiration), and a sharp decrease in water availability due to drought and irregular rainfall patterns. It is highly likely that these bioclimatic changes are faster than the ability of ecosystems to adapt. It has been predicted that by 2050, bioclimatic conditions will changed in more than 50% of Guatemalan territory and over 90% by 2080. This will include a reduced coverage of humid, very humid, and rainforests, which currently cover about 80% of the country and which may be reduced to 60% and below 35% for the years 2050 and 2080, respectively. Mountain ecosystems such those present in La Sierra de los Cuchumatanes are highly vulnerable to changes in climate, such as variability in temperature and precipitation trends. The Selegua River watershed, which upper section is located is located within the municipalities of Todos Santos and Chiantla is among the most threatened areas by CC according to a study conducted by the Institute of Agriculture, Natural Resources, and Environment at the University Rafael Landívar (IARNA-URL) in 2011. Climate change may cause high mortality rates and extinction of

local populations among endemic species and species with and restricted distribution in these areas. Forest ecosystems in the department of Huehuetenango are also threatened by the increase in the number and intensity of tropical storms and torrential rains; during the last two decades these events have caused the loss of forest coverage and erosion due to an increase in landslides.

Direct and underlying causes

54. Conditions of **poverty and extreme poverty** that prevail in the rural areas of the department of Huehuetenango and in general in the rural areas of Guatemala constitute the principal cause for the loss of biodiversity in the region. A consequence of poverty is subsistence based on the exploitation of natural resources, including the transformation of natural ecosystems into agricultural fields and pasturelands for cattle ranching, hunting, and extraction of timber and non-timber forest products. In the region, 71% of the population is classified as poor, as compared with 54% of the national average, and 22% is classified as extremely poor. Currently close to 6.5 million Guatemalans are poor and approximately 3 million are extremely poor. Poverty is manifested to a greater extent in the rural areas, where the situation is the most critical among indigenous communities.

55. **Population growth** in the poor rural areas of the department of Huehuetenango leads to the overexploitation of natural resources and the transformation of forested areas. Guatemala has the highest rate of population growth in Central America at 2.4%. The average age of Guatemalans is calculated at 20 years; according to the UNDP (2007), in the department Huehuetenango the average age may even been less. The growth rate is not expected to decrease significantly in the near future. The population density of the department of Huehuetenango is 136 hab/km^2, which is higher than the national average. Accordingly, population growth is expected to continue to put intense pressure on the region's forests and BD.

56. **Structure of land tenure**: The distribution of land is related to the use of natural resources and BD since land is a main factor for production. In particular, the demand for agricultural lands puts high pressure on existing natural ecosystems, BD, and forests. The distribution of land in Guatemala also determines the distribution of wealth. Land distribution in Guatemala is highly unequal; 0.15% of producers own 70% of the land, 4% own 10%, and the remaining 20% of the land is divided among 96% of the owners. Over 90% of land owners practice subsistence farming in small holdings that tend to be located in areas marginal for agriculture, usually for the production of basic grains (corn and beans). Over 80% of the land dedicated to subsistence grain production is located in hillside areas suitable for forestry, which causes accelerated degradation of natural resources, including BD.

57. **Deficient environmental planning and weakness in the formulation and implementation of public policies**. The application and enforcement of environmental regulations is weak both nationally and locally. This deficiency is due to a series of factors that includes regulatory gaps, limited capability within the groups charged with enforcing the law, inadequate policies, and limited inter-institutional coordination. The need for BD conservation has not been properly incorporated into policies and regulations of multiple sectors. Additionally, limited budgets and inadequate budgetary allocation, lack of staff that are adequately trained to manage environmental issues and the effective conservation of BD and duplication of functions and the lack of coordination among public institutions directly related to environmental issues on both the national and local levels, prevents the reduction of threats to BD.

1.3. Long-term solution

58. The long-term solution to deforestation and degradation of Guatemala's dry and humid forests, desertification, and threats to BD is to strengthen land/forest management and BD conservation in the southeastern and western regions of Guatemala in order to secure the flow of multiple ecosystems services, at the same time ensuring ecosystem resilience to CC. This will be achieved through: a) the development of a regulatory and institutional framework that integrates the principles of sustainable forest management (SFM) and sustainable land management (SLM), and strengthens integrated environmental land management capacity; and b) pilot projects for SFM/REDD+ and SLM that will reduce land degradation, improve C stocks, and enhance BD conservation in southeastern and western Guatemala.

Specific actions that will be developed through the project and that will contribute to creating solutions to deforestation and degradation of dry and humid forests, desertification, and threats to BD in the southeastern and western regions of Guatemala are summarized in Table 4.

Table 4 – Project contributions to reduce deforestation and degradation of dry and humid forests, desertification, and threats to BD in the southeastern and western regions of Guatemala

Threats	Solutions
Deforestation	- The project will promote reform of the Agricultural Policy of Guatemala (i.e., incorporation of SLM and SLM considerations), which will contribute to reducing the main threat to forest cover loss, habitat fragmentation, and soil deration in Guatemala - The project will implement two SFM/REDD+ pilot projects, which will result in the avoided deforestation of 1,906 ha dry forest and 1,012 ha of humid montane forest.
Loss, degradation, and fragmentation of habitat	- The project will establish four BD/forest conservation agreements between the municipality and agriculture/cattle ranching associations in the department of Huehuetenango to prevent habitat fragmentation and degradation. - The project will establish a 420-ha biological corridor between forest remnants, which will include reforestation, rehabilitation of degraded areas through natural regeneration, and sustainable agroforestry with native species.
Contamination of water bodies	- The project will implement best management practices (BMPs) that will allow local stakeholders disposing of wastes in an environmentally sound manner to reduce the contamination of water bodies. The project will cooperate actively with the PINPEP and PINFOR programs. Under the criteria for eligibility for technical and financial support from these programs, BMPs are required and enforced through annual certifications.
Overgrazing	- The project will promote the development of semi-enclosures for livestock (principally for sheep) that pose a threat to natural regeneration, endemic species, and reforestation efforts. BMPs for livestock semi-enclosures will be promoted by the project to avoid any potential risk from semi-enclosure management.
Forest fires	- The project will fully equip and train staff from four environmental/forestry municipal offices in the southern region to control forest fires. - SFM/SLM plans for the upper and mid sections of the Ostúa River Watershed associated with the dry forests and the Ayarza Lagoon in the southern region will include strategies to reduce the risk of forest fires.
Climate change	- The project will provide a stable source for C sequestration by promoting dry forest and humid montane forest conservation, reforestation, rehabilitation of graded areas through natural regeneration. - The project will promote connectivity among forest blocks and conservation areas in the department of Huehuetenango, enhancing species' mobility and providing them with refuge from temperature changes.

1.4. Barriers analysis

59. There is an opportunity for strengthening land/forest management processes and BD conservation in order to secure the flow of multiple ecosystems services, at the same time ensuring ecosystem resilience to CC in the southeastern and western regions of Guatemala. This will be achieved through: a) the development of a legal, planning, and institutional framework for integrating SFM/REDD+ and SLM principles within national environmental and development policies (e.g., integrated approach to managing forest ecosystems, protection and sustainable use of BD, adaptation and prevention of land degradation, and integration of people's livelihood objectives within the management of forest ecosystems); b) piloting SFM/REDD+ and SLM practices in the southeastern region of Guatemala to improve C stocks and reducing dry forest deforestation; and c) piloting SFM/REDD+ in western Guatemala (department of Huehuetenango) to increase ecosystem connectivity and contribute to the conservation of BD in a humid

mountain forest/agricultural landscape. However, the effective implementation of SFM/REDD+, SLM, and BD conservation measures in the southeastern and western regions of Guatemala is limited by the following barriers:

60. **Weak policy and institutional framework limits SFM, SLM, and BD conservation.** Traditionally public policies in Guatemala have been oriented towards the development of agriculture, including the promotion of agricultural activities in lands suitable for forestry. Policy instruments such as access to credits and land, the transfer of agricultural technology, and business incentives have not incorporated the protection and sustainable use of forest goods and services. The few existing instruments such as PINFOR and PINPEP, through which important contributions to forestry/agroforestry resources management have been made, are insufficient for SFM, SLM, CC mitigation, and BD conservation. Policies outside the forestry and environmental sectors, in particular the agricultural sector, have given little consideration to SLM and SFM. The incorporation of SLM and SFM considerations into agricultural policies is of paramount importance, since the expansion of agriculture and the employment of unsustainable agricultural practices are the main factors leading to forest cover loss, habitat fragmentation, and soil degradation in Guatemala. In addition, there are gaps in existing policies regarding forest management. In addition, the majority of the forests in Guatemala are used for firewood and timber for household consumption; however, existing laws do not require resource use plans, and the forests remain largely unmanaged. SFM and conservation in Guatemala is also limited by the great weakness in national and municipal public institutions regarding the administration and control of the use of timber and non-timber resources, and in legal enforcement to ensure compliance. For example, 40% of forest loss in Guatemala is due to illegal logging in PAs. The allocation of scarce public funds to national and local institutions charged with forest management and conservation, the lack of mechanisms to ensure effective collaboration among the different environmental authorities and policy makers, and the absence of databases to archive, process, and manage information regarding use permits, volumes, and types of extraction limit the capability to take action in the field and enforce adequate control measures. Finally, most forest users are not knowledgeable about forestry and conservation regulations and practices, which in turn encourage illegal extraction and unsustainable uses.

61. **Limited capacity of the environmental authorities and local communities for SFM/SLM and environmental management**. There is limited capacity in Guatemala among the institutions and the national and local stakeholders for the development of strategies and the application of tools that ensure SFM/SLM and BD conservation. There is limited capacity for the development and application of the regulatory frameworks that are required to reduce the direct and underlying factors that promote unsustainable use of the land. In addition, knowledge is limited regarding the development of agroforestry production practices that reduce GHG emissions and promote C sequestration and increase connectivity for BD conservation. Furthermore, there is a lack of methodologies for REDD+ pilot projects in the dry and humid montane forests, and stakeholders still need to be informed about the goals and benefits of REDD+ pilot projects. Finally, there is little experience in the country at the local level in the sustainable management of ecosystems. In the department of Huehuetenango there is little local capacity for environmental management (land planning, sustainable management of forests, BD conservation, and sustainable agriculture) since the region remains isolated until recently. In the southeastern region, municipalities have limited experience in SFM and SLM and lack the skills needed to effectively reduce deforestation, forest cover loss, and land degradation. This is particularly critical, since this region has one of the highest deforestation rates, the greatest threat of desertification, and the highest susceptibility to droughts in the country.

1.5. Stakeholder analysis

62. Table 5 presents a description of the principal stakeholders involved in the project. The successful implementation of the project will largely depend on effective communication with these stakeholders and the mechanisms put into place by the project to ensure their participation. The key national stakeholders are the MARN, CONAP, MAGA, and INAB. At the local level, the most relevant

stakeholders are the various municipalities within the departments of Jalapa, Jutiapa, and Santa Rosa in the southeastern region, the department of Huehuetenango in the western region, as well as civil society organizations (CSOs) and local communities.

Table 5 – Key stakeholders of the project.

Stakeholders	Project Implementation Role
Ministry of the Environment and Natural Resources (MARN)	The MARN is the technical focal point of the GEF. It is charged with formulating and carrying out environmental policies in Guatemala. It will guide the actions for SLM, BD conservation, and mitigation and/or adaptation to CC. MARN's Climate Change Technical Unit (UTCC) serves as the technical representative to the UNFCCC for the GoG, providing technical and management guidance with regard to climate change. The MARN will provide follow-up and technical orientation to the activities related to SFM/REDD+ and CC.
National Protected Areas Council (CONAP)	CONAP is the focal point of the CBD. It will play a central role in developing policies/strategies for SFM, SLM, and forest and BD conservation.
National Forest Institute (INAB)	INAB is the entity charged with the execution and promotion of forestry policies in Guatemala. It will facilitate access to technical support, technology, and services for SFM to municipalities and other stakeholders.
Ministry of Agriculture, Cattle Ranching, and Nutrition (MAGA)	MAGA is charged with developing and executing the policy for the development of agriculture and the sustainable use of natural renewable resources and their services. It will promote the project's activities for SLM and Land Use, Land Use Change, and Forestry (LULUCF).
Secretary of Planning and Programming for the Presidency (SEGEPLAN)	SEGEPLAN is responsible for contributing to the development of general policy for the GoG, as well as monitoring and evaluating compliance. It is responsible for the validation of the project on behalf of the GoG.
Municipalities	The municipalities are responsible for the sustainable management of natural resources within their jurisdictions, in coordination with the institutions charged with developing environmental regulations. The municipalities are organized nationally under the National Association of Municipalities of Guatemala (ANAM).
Local communites	Local communities will implement BMPs for the existing forest, as well as for agricultural production practices, to improve soil productivity, maintain forest coverage, and conserve BD. They will be the beneficiaries of training, technical assistance, and economic incentives for implementing SLM and SFM.
Municipal Development Councils (COMUDES) and Community Development Councils (COCODES)	The COMUDES and COCODES, which represent local communities (indigenous and non-indigenous), will participate in decision-making processes regarding SFM/SLM and BD conservation. The COMUDES are formed by the Municipal Mayor, Trustees, Councilors, and the representatives of the COCODES. The COCODES are the community structures created to increase the participation of community members in development planning and governance at the local level. As they are composed of community leaders, their role will be to serve as a liaison between the community and the other stakeholders to ensure good communication and collaboration to benefit the project.
Private sector and CSOs	The private sector will be represented through the involvement in the project of Guatemala's Forestry Union, a non-profit organization that promotes the cultivation and sustainable management of forests in the country. In the southeastern region it is represented by the Foresters Association of Jalapa (ASILJA). CSOs from the western region participating in the project include: a) ICUZONDEHUE, whose objective is to promote the integrated sustainable development among its members and the conservation of natural resources. They will form part of the Conservation Agreement for the pilot site in the Huehuetenango region; b) ASILVOCHANCOL, whose objective is to support the strengthening of the organization to generate economic and environmental benefits for it members through the rational and sustainable use of the forest, soil, and water. They will form part of the Conservation Agreement for the pilot site in the Huehuetenango region; and c) Association of Organizations of the Cuchumatanes (ASOCUCH), which represents

	12 cooperatives, 9 associations, and 10 groups of entrepreneurial women in the Sierra de los Cuchumatanes. They will participate in the negotiation of BD/forest conservation agreements.
Fundación para el Ecodesarrollo y la Conservación (FUNDAECO)	FUNDAECO has 22 years of experience promoting and managing protected areas. This NGO promotes land and BD conservation, as well as the empowerment, participation, and integration of and by the community. It will carry out activities for the conservation of forests and BD in the department of Huehuetenango (Pilot Region 2).
Foundation of Integrated Development of Men and the Environment (CALMECAC)	CLAMECAC is an NGO working in the conservation and sustainable management of natural resources in the southeastern region of Guatemala, with the participation of local communities. CALMECAC will contribute to the implementation of the PINFOR and PINPEP incentives and is a co-financer of the project.
Inter-American Development Bank (IADB)	The IADB will provide support as a responsible Party of the FCPF to the GoG in developing the platform for the REDD+ through the implementation of the FCPF's R-PP. The project team will ensure that project activities are consistent with national REDD+ developments undertaken under the R-PP.
German Development Bank (KfW)	The KfW will be one of the project's co-financiers. The project team and the MARN will establish close collaboration with KfW, in order to establish complementarities and to maximize efforts within the framework of activities programmed by the MARN for the dry region of the southeast financed by the KfW.
United Nations Development Programme (UNDP)	The UNDP is the Project's Implementing Agency and will be responsible for overall project implementation through the Direct Implementation Modality (DIM). It will provide guidance, institutional support, and technical and administrative assistance, as well as theoretical and practical knowledge at the national level and for the effective implementation of the project.

1.6. Baseline analysis

63. Under the baseline scenario efforts made for strengthening land/forest management and BD conservation in the southeastern and western regions of Guatemala in order to secure the flow of multiple ecosystems services will be insufficient. The baseline analysis describes investments related to the CC, REDD+, SFM, BD, and land degradation (LD).

64. **CC/REDD+.** The problem that the baseline activities seek to address is increased emissions from deforestation and forest degradation. Project development under REDD+ as a strategy to reduce deforestation in Guatemala is still fairly recent (no more than 5 years). Through its UTCC, the MARN has formed a work group (forests, biodiversity, and CC) that has defined the general guidelines to be considered during the development of a REDD+ National Strategy. Guatemala's REDD+ National Strategy is currently in the REDD+ Readiness process, for which it developed an R-PP. The R-PP was submitted to the Forest Carbon Partnership Facility (FCPF) in 2012 and it is currently undergoing review. The R-PP includes the following components: a) organization and consultation; b) construction of a REDD+ National Strategy; c) development of a reference level for the assessment of emission reduction targets; and d) design of a monitoring system to assess emissions and removals. It is projected that Guatemala's REDD+ Readiness process will take approximately three years, from August 2013 until approximately October 2016. The estimated total budget is $10.2 million USD, $3.8 million of which are being requested from the FCPF. The IADB is the delivery partner chosen by the GoG and will be responsible for coordinating the implementation of the R-PP. The FCPF funding is intended to support Guatemala in the design of a REDD+ National Strategy.

65. Despite the fact that Guatemala is still in the process of defining a REDD+ National Strategy, several civil and community organizations are working on the implementation of REDD+ pilot projects connected to the voluntary carbon market. There are currently three REDD+ pilot projects that are being coordinated by CONAP since they are located in protected areas: a) a forest concession project in the

Maya Biosphere Reserve (MBR), promoted by the Association of Forest Communities of the Petén (ACOFOP) and the Rainforest Alliance; b) a project in Sierra del Lacandón National Park, promoted by Fundación Defensores de la Naturaleza, Oro Verde, and the Rainforest Alliance; and c) a project in Lachuá National Park, promoted by Fundación Lachuá and the International Union for the Conservation of Nature (IUCN). These three pilot projects have contributed to the development of REDD+ methodologies, and through the Sierra del Lacandón project, a forest inventory was performed in accordance with international standards. These REDD+ initiatives have also allowed the development of some deforestation scenario models for Guatemala.[19] IADB staff involved in the implementation of the R-PP who were interviewed during the PPG phase noted that while REDD+ pilot projects are important to generate lessons learned from the field, methodological aspects and capacity-building in such projects should be focused on the principles, methodologies, and priorities outlined in the R-PP and the National REDD+ Strategy that Guatemala will be developing in the upcoming years.

66. **Forests**: The problem that the baseline activities seek to address is deforestation and unsustainable forest management. One of the main programs promoted by the GoG to reduce deforestation and promote SFM is the PINFOR, which is directed toward at landowners with 2+ ha of land with forestry potential. Landowners willing to invest in reforestation, forest regeneration, and production and conservation activities as a means to reduce deforestation are rewarded with a payment per hectare, which varies according to the year and is dependent upon compliance. By the time of its completion in 2016, PINFOR intends to establish 285,000 ha of forestry plantations, 650,000 ha of forests managed for protection and production, and 285,000 ha of regenerated forests. Payments are distributed through certificates based on field evaluations of the implementation of management plans, conducted by INAB technical personnel. Between 1998 and 2011approximately $167 million USD were invested mainly in reforestation and forest management projects, which benefited 733,365 people. During 2012-2106, PINFOR investments may reach over $64 million USD nationally. For the regions where this GEF investment will be implemented, PINFOR benefited a total of 2,588.82 ha between 2007 and 2011.

67. A second forest incentive program of the GoG is the PINPEP, which is directed toward beneficiaries and landholders who lack legal ownership titles in municipalities prioritized according to their level of poverty. This program covers agroforestry activities, forest plantations, and forest management in order to reverse the processes of deforestation, reduce vulnerability to extreme weather events, mitigate/adapt to the effects of climate change, and to reduce poverty and extreme poverty in the country. Projects usually receive payments during 6 to 10 years, longer in the case of protection and management. PINPEP's total financing is equivalent to 1% of the national budget, or approximately $40 million USD annually. Between 2007 and 2011, approximately $7.3 million USD were invested through PINPEP, covering 10,344.57 ha and directly benefiting 8,880 men and 3,205 women. For the regions where this GEF investment will be implemented, PINPEP benefited a total of 707.25 ha between 2007 and 2011. This program is permanent, as established by the PINPEP law.

68. Based on the estimates made during the PPG, it is expected that during the duration of the project (5 years) an additional 2,822.11 ha will receive support from PINFOR and PINPEP with a total investment of approximately $1.52 million USD. This means that 44,430.5 tCO_2-e will be sequestered; 14,299.7 tCO_2-e in the southeastern region and 30,130.8 tCO_2-e in the western region.

69. The PINFOR and PINPEP investments have also enabled the establishment of nine MFOs and provided support to four community organizations in the southeastern region, and have provided training in forest management and control of forest fires to municipal staff and local communities in the

[19] Espinosa, C., Cabrera, J., and Dunning, G. Pushing Forward REDD-plus: Civil society processes in the development of a national REDD strategy. The Forests Dialogue (TFD), Number 2 2011. Available at http://environment.yale.edu/tfd/uploads/TFD_PushingForwardREDDplusGuatemala(1).pdf

department of Huehuetenango in the western region. This support will continue during the coming years. It must be noted that funds available through both PINPEP and PINFOR are usually under-utilized, in the sense that there are not sufficient projects submitted by small landowners or landholders to benefit from the incentives provided by these programs.

70. The Foundation of Integrated Development of Men and the Environment (CALMECAC) through its natural resources management program will promote the conservation of PAs and its connecting corridors in the departments of Jalapa and Jutiapa between 2013 and 2017. With PINFOR and PINPEP support, it will implement reforestation and agroforestry activities with local communities for a total of $175,000 USD.

71. **Biodiversity:** The department of Huehuetenango is home to a large diversity of species, many of which are endemic. Investments planned for the region will be focused on the protection of humid montane forests and the prevention of loss of BD due principally to the expansion of agriculture and cattle ranching. PAs are an essential component of the conservation strategies for forests and biodiversity in the country. The Protected Areas System of Guatemala (SIGAP), whose governing entity is the CONAP, currently has a total of 320 areas that cover 33,802 km^2 of land (31.04% of the country's territory). In the prioritized municipalities of the department of Huehuetenango there is only one PA registered in the SIGAP; the Todos Santos Cuchumatán Municipal Regional Park (MRP), with a surface area of 7,255.4 ha (0.06% of the national territory). This PA, as with the other PAs in Guatemala, is insufficiently financed. CONAP has only projected investing in management activities for the Todos Santos Cuchumatán MRP and its surrounding areas in the five prioritized municipalities at a total amount of $25,905 USD during the 2013-2017 time period.

72. In the department of Huehuetenango there are also conservation areas prioritized for their importance for BD, including Cerro Cruz Maltín (7,186.27 ha), which is currently proposed to be included in the SIGAP, and Pepajau-Magdalena (9,200 ha). Investments are projected for 2013-2017 that will contribute to the reduction of threats to BD in these and other areas of high biological importance. The French Fund for the Environment (FFEM), in an agreement with FUNDAECO, is supporting the execution of the project "*Strengthening of mechanisms community-based co-management and conservation of the SIGAP*," whose objective is to contribute to the consolidation and expansion of the SIGAP, reinforcing the role of local and indigenous communities in the management of areas that are important for BD, including Todos Santos Cuchumatán MRP, Cruz Maltín, Valle de Quisil, Piedras de Kab'tzin, Finca San José and San Francisco Las Flores, with a budget of $231,370 USD. The Association for the Cooperation of Integrated Development in Huehuetenango (ACODIHUE), utilizing funds from the FCG, is developing activities in several municipalities of Huehuetenango (such as Todos Santos Cuchumatán) geared towards achieving permanent conservation of natural resources, restoration of degraded areas, protection of BD, and reduction of threats and pressure on BD and the natural resources of the Ocho River microwatershed. This involves the active participation of the local communities and a total investment of $59,367 USD. ASOCUCH, through support from the Fund for Conservation of Tropical Forests (FCA-Guatemala), is carrying out the Small Donations Program for the Cuchumatanes Sub-Region, whose objective is to facilitate activities of conservation and restoration of natural resources in the Cuchumatanes region through local participation with a total investment of $316,445 USD during 2013-2014.

73. **Land Degradation**: The problem addressed by the baseline activities is the loss of dry forest cover and degradation of the land and dry forests due to the expansion of agriculture and firewood extraction in the southeastern region of Guatemala. The MAGA, through the Department of Watersheds and the delegation from the Los Esclavos River (department of Santa Rosa: municipalities of Casillas and San Rafael las Flores; department of Jalapa: municipalities of Jalapa, Mataquescuintla, and San Carlos Alzatate; and department of Jutiapa: municipalities of Quesada and Jutiapa) is developing extension and technical assistance activities, training, and development of natural resource proposals with the MFOs,

and in coordination with COCODES. These actions will allow the development of soil structures in degraded areas, the creation of plant nurseries with the municipalities and the local communities, reforestation, and harvesting of rainwater (water storage). During the 2013-2017 time period, the MAGA will continue these training activities in the region through the Rural Extension National System (SNER); the investment projected for this is $332,500 USD. In addition, the SNER, which has as its objective the reduction of food insecurity and poverty through the diversification of agricultural production (food supply and surpluses for local markets) and the use and conservation of natural resources, will invest $203,750 USD in the three prioritized departments in the southeastern region during 2013-2017, contributing to the development of best agricultural and cattle ranching practices, which will contribute to preventing LD. At the same time, the MAGA is planning to implement the Family Farming Program to Strengthen the Peasant Economy (PAFFEC) 2012-2016[20]. The PAFFEC will be implemented with support from the SNER and will have an initial investment at the national level estimated at $25 million USD. Although it is still not possible to estimate how many of those resources will be invested directly in the project's prioritized municipalities in the southeastern region, the components that will be executed by the PAFFEC include activities related to soil conservation, production of organic fertilizers, the installation of micro-irrigation systems, fencing in animals, conservation of firewood and improved stoves, improved water quality, training facilitators in environmental management and sustainable agriculture, among other activities.

74. Currently, the MARN does not have any program or project in operation, and there are no projected additional investments, solely the work of regional offices in each department whose principal function is to address the demand for Environmental Impact Assessments (EIAs) in the region and investigate claims of contamination from various causes.

2. STRATEGY

2.1. Project rationale and policy conformity

75. The project addresses the GEF 5 strategy for SFM/REDD+, as well as the Focal Areas of BD, LD, and Climate Change Mitigation (CCM). In particular, the project addresses the SFM/REDD-1 objective, which seeks to "*reduce pressures on forest resources and generate sustainable flows of forest ecosystem services.*" The project has been designed in accordance with the GEF investment guidelines for SFM/REDD+ in order to secure multiple environmental benefits and to strengthen the spatial planning framework, including the development of a regulatory and institutional framework and the necessary tools (municipal-level geographic information system (GIS) mapping tool of multiple ecosystem benefits; a protocol for the monitoring of C flow; and trained decision-makers and technical staff to promote SFM and SLM in Guatemala (Component 1). Moreover, the project will implement SFM measures to address threats to forests in the western region (department of Huehuetenango) and southeastern region (departments of Jalapa, Jutiapa, and Santa Rosa) of Guatemala where deforestation rates are high due mostly to the expansion of agriculture and the unsustainable production practices. This will be complemented by actions that address the Biodiversity-2 Objective: *Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors* by adapting agricultural and cattle ranching production practices so as to maintain BD patterns and ecological processes in this region, and to reduce forest cover loss in a critical corridor covering 13,843 ha. The project will also address the CCM-2 objective: *Renewable Energy – Promote investment in renewable energy technologies*. The project will implement an energy-efficient stoves program that will benefit local communities residing in the dry landscapes of southeastern Guatemala who use firewood as their principal source of energy. The energy-efficient stoves program will reduce firewood consumption and

[20] MAGA. Programa de Agricultura Familiar para el Fortalecimiento de la Economía Campesina PAFFEC 2012-2015. Documento de Política Pública No. 2. 65 páginas.

GHG emissions. In addition, the project addresses the CCM-5 objective: *Promote conservation and enhancement of carbon stocks through sustainable management of land use, land use change, and forestry*. Under this focal area the project will restore and reforest 3,500 ha of dry forest with native species in the southeastern region, resulting in 116,849 tCO_2-e sequestered over a 5-year period (i.e., project length) (Component 2). The implementation of forest-related BMPs, including REDD+, in a 17,456-ha dry forest landscape will reduce C emissions by an estimated 413,114 tCO_2-e over a 5-year period. Similarly, BMPs including REDD+, in a 34,357 ha in a production/conservation landscape in western Guatemala will reduce C emissions by an estimated 468,360 tCO_2-e over the same period. Under the LD-2 and LD-3 objectives: *Forest Landscapes – Generate sustainable flows of forest ecosystem services in drylands, including sustaining livelihoods of forest dependant people* and *Integrated Landscapes – Reduce pressures on natural resources from competing land uses in the wider landscape*, the project will update the PROANDYS document and will facilitate SFM and maintain forest cover in the departments of Jalapa, Jutiapa, and Santa Rosa, including the integrated management of two watersheds that will result in a reduced threat of desertification and drought, and sustained water flows.

2.2. Country ownership: country eligibility and country drivenness

76. The project follows the guidelines of the Guatemala's Policy for Conservation, Protection, and Improvement of the Environment and Natural Resources (2007) for the development of regulations for the conservation and sustainable use of forests and the inclusion of forests and priority areas for reforestation as key elements of land use plans in the country. The project is consistent with the Forestry Law (1996) and the National Forestry Policy of Guatemala, in that it creates a policy and institutional environment that promotes the sustainable use and conservation of forests (Component 1) and the development of reforestation activities and agroforestry to enhance forest conservation and management (Component 2). The National Forestry Policy also establishes that municipal governments must collaborate with the state forestry administration (i.e., INAB) to enforce compliance with the law, and that they should formulate, approve, and implement development plans for local forest resource use. The forestry laws, together with Guatemala's Municipal Code (1999), favor the decentralization of forest management and define the municipalities' role, including the development of local-level forestry policies and management plans; licensing, control and inspection activities; and monitoring mechanisms, including the establishment of MFOs. The project addresses these directives and promotes collaborative partnerships between INAB and the municipalities for forest management, and supports the municipalities by incorporating SFM/REDD+ and SLM principles into the Municipal Development Plans. The project will serve to strengthen the Municipality Forestry Offices by equipping and training staff to improve planning, management, and control activities. The project also addresses two action items of the National Forestry Agenda (ANF), which were approved by INAB within the framework of the National Forestry Program of Guatemala: a) the conservation of forests, including forests associated with PAs that comprise the SIGAP; and b) the promotion of economic compensation mechanisms for CO_2 sequestration. Similarly, the project is aligned with the National Strategy for Sustainable Production and Efficient Use of Firewood 2013-2024, which has as its main goal to establish and manage forest plantations and agroforestry systems for the sustainable of firewood with support from the forest incentive programs; and to promote the use of appropriate technologies for efficient firewood use, through technical and financial assistance for establishing and monitoring the use of firewood-efficient stoves.

77. The project will contribute to achieving the objectives of the National Strategy for Conservation and Sustainable Use of Biodiversity (1999) by promoting the recovery of lands for forestry purposes and the conservation and sustainable use of BD in natural forests, including actions to strengthen the buffer zone of the Todos Santos Cuchumatanes MRP and the establishment of a biological corridor to promote connectivity between forest remnants in an agriculture/cattle ranching production landscape in the Guatemala's western region. The Conservation Plan for the Dry Regions of Guatemala (2009) includes among its strategic objectives to maintain the ecological integrity and the existing coverage of dry forests, as well as the implementation of conservation mechanisms in the southeastern region. The project will contribute to achieving these objectives by implementing a pilot project that will reduce dry forest

deforestation in a mountain landscape in this region. The project will also implement actions to reduce GHG emissions as set forth in the framework for National Policy on Climate Change (2009); in particular, by implementing a protocol for the monitoring of C flow, the application of a VCS methodology for REDD+ pilot projects in dry and humid forests, and the monitoring of emissions. Finally, the project will help Guatemala to implement activities to conserve forest resources, activities related to forest production, and technical assistance within the National Program to Combat Desertification and Drought (PROANDYS), which identifies the southeastern region as one of the most vulnerable regions to desertification and drought. Through the development and implementation of SFM/SLM plans for the upper and middle sections of three watersheds within the departments of Jutiapa, Jalapa, and Santa Rosa, improved management of the remaining dry forest will contribute to the delivery of sustained water flows.

2.3. Design principles and strategic considerations

78. Project Identification Form (PIF) Conformity: The project design is closely aligned to the original PIF. The structure of the project components closely resembles the PIF that was approved by the GEF. However, the following changes were made, which do not represent a departure from the project's strategy as defined originally in the PIF nor will they have an impact on the funds (GEF and co-financing) originally budgeted:

PIF Outputs	Project Document Outputs
- Forest Policy reform to include the thorny bush and dry forest as forest ecosystems and provide for LULUCF including C flow assessments Note: Over the past two years, INAB has been working on a revised National Forest Policy and there is a new proposal entitled "National Forest Policy of Guatemala, Vision 2022," which includes the thorny bush and dry forest as forest ecosystems and provide for LULUCF including C flow assessments	- National Action Program to Combat Desertification and Drought updated
- REDD+ pilot project targeting 20,000 ha, 5,160 ha of which will be restored and reforested by planting native species and through natural regeneration. This pilot project includes developing and implementing a proposal for performance-based payment schemes (voluntary market or International Fund) to promote the conservation of dry forest	REDD+ pilot project targeted at 17,456 ha; 3,500 ha of which will be restored and reforested by planting native species and through natural regeneration. This pilot project includes the development and implementation of a proposal for performance-based payment schemes (voluntary market or International Fund) to promote the conservation of dry forest
- Methodology for REDD+ pilot project in dry forest is developed	- Methodology for REDD+ pilot project in the dry forest applied
- SFM/SLM plan for the upper and middle sections of two (2) watersheds associated with dry forests and the Ayarza Lagoon include planning for firewood use, establishment of riparian buffers strips, and use of windbreaks and live fences	- SFM/SLM plans for the upper and mid sections of the Ostúa River Watershed associated with the dry forests and the Ayarza Lagoon include planning for firewood use, the establishment of riparian buffer strips, and the use of windbreaks and live fences
- Development plans for three (3) municipalities incorporate SFM/REDD+ and SLM principles and	- Development plans for up to fifteen (15) municipalities incorporate SFM /REDD+ and

their implementing measures	SLM principles and their measures for implementation
- Three (3) environmental/forestry municipal offices (Jalapa, Jutiapa, and Sta. Rosa) fully equipped and with skilled staff for control of illegal use of forest (e.g., illegal logging and fire wood extraction), control of forest fires, and enhanced conservation of BD and C sequestration	- Four (4) environmental/forestry municipal offices (Jalapa, Jutiapa, and Santa Rosa) are fully equipped and with staff trained to control forest fires, and enhance BD conservation and C sequestration
- REDD+ pilot project for 4,334 ha in the buffer zone (agricultural production landscape) of Todos Santos Cuchumatanes PA. This pilot project includes developing and implementing a proposal for performance-based payment schemes (voluntary market or International Fund) to promote the conservation of humid montane forests	- REDD+ pilot project for 34,357 ha in a production/conservation landscape that includes the Todos Santos Cuchumatanes PA. This pilot project includes developing and implementing a proposal for performance-based payment schemes (voluntary market or the International Fund) to promote the conservation of humid montane forests
- Methodology for REDD+ pilot project in humid montane forest is developed	- Methodology for REDD+ pilot project in humid montane forest applied
- Biological corridor established (250 ha) between forest remnants	- Biological corridor established (420 ha) between forest remnants
- Two (2) BD/forest conservation agreements between the municipality and agriculture/cattle ranching associations facilitate implementing two incentives (PINFOR, PINPEP) in order to maintain the forest cover (20,176 ha) in an agriculture/cattle ranching production landscape, and ensures permanence of the project's benefits	- Four (4) BD/forest conservation agreements between the municipality and agriculture/cattle ranching associations facilitate implementing two incentives (PINFOR, PINPEP) in order to maintain the forest cover (13,843 ha) in an agriculture/cattle ranching production landscape, and ensures permanence of the project's benefits

79. In addition, to ensure the focal area funding matches the text of the objectives of the components as suggested by the GEF Secretariat review, $100,000 USD of the CCM focal area funds from the Pilot Project 1 (Component 2) were reassigned to the Pilot Project 2. In this way two focal areas are included (BD and CCM) in order for the Pilot Project 2 to qualify for the SFM/REDD+ incentive. The CCM investment will result in 25,679 tCO_2-e sequestered through humid montane forest rehabilitation over a 5-year period. Finally, BD benefits were excluded from the expected outcomes in Component 1 to compensate for the absence of funding available in the BD STAR allocation of Guatemala.

80. UNDP's Comparative Advantage: UNDP's comparative advantage for the GEF lies in its global network of country offices, its experience in integrated policy development, human resources development, institutional strengthening, and non-governmental and community participation as specified in *Comparative Advantage of the GEF Agencies (GEF/C.31/5rev.1)*. UNDP assists the GoG in promoting, designing, and implementing activities consistent with both the GEF mandate and national sustainable development plans. UNDP has been identified as the appropriate GEF Implementing Agency by CONAP based on its demonstrated experience working on multiple GEF BD projects. UNDP also has extensive programming experience in Guatemala. The UNDP Guatemala Environment and Energy Officer, Risk Management Officer, Finance Officer, Procurement Officer, and M&E Officer will provide technical, financial, administrative, and management support to the project as is required. Additional support roles will be undertaken by the BD and SFM/REDD+ experts based in the Panama Regional UNDP/GEF Office.

81. Coordination with other related initiatives: This project will complement the activities of the regional project CCAD-PNUD-PNUMA/GEF-GTZ *Establishment of a Programme for the Consolidation of the Meso-American Biological Corridor (PCMBC)*, which is an effort by the seven Central American countries, including Guatemala and Mexico, to provide technical assistance to the governments and communities in application of the ecosystems approach to the conservation and sustainable use of natural resources by the CBD. This project will incorporate lessons learned by the PCMBC that are related to forest management and the promotion of sustainable land use, information management and monitoring of BD, conservation and development programs, and sustainable practices. In addition, it will incorporate lessons learned from the GEF-UNDP project *Consolidating a System of Municipal Regional Parks (MRPs) in Guatemala's Western Plateau*, regarding the implementation of municipal and community forest conservation and management activities, sustainable agricultural practices in mountain ecosystems, and the processes related to inter-institutional coordination and cooperation, and monitoring and follow up of the project's activities. This project will also coordinate actions with the GEF-UNDP project *Promoting ecotourism to strengthen the financial sustainability of the SIGAP*. This project is currently in implementation (Year 1) and will have as its geographic zone of action PAs in western highland landscapes, including Todos Santos Cuchumatán in the department of Huehuetenango. The project executing agency is CONAP, which will also be involved in the implementation of BD conservation activities proposed herein for the western region. This will facilitate the exchange of information and lessons learned between the two projects.

82. The project will also coordinate actions with the UNFCCC Adaptation Fund project *Climate change-resilient productive landscapes and socio-economic networks advanced in Guatemala*. This project aims to increase resilience to variations in climate in the productive landscapes and socioeconomic systems of five pilot municipalities in the central highlands that are threatened by CC. Given that the Adaptation Fund project will have the UNDP and MARN as its implementing partners, this will facilitate the exchange of information and lessons learned. Similarly, the project will coordinate actions with the KfW *Dry Forest Project*; this initiative and the GEF project proposed herein are complementary efforts within the framework of the MARN for the southeastern region of Guatemala, which will facilitate the exchange of information and lessons learned between the two projects. Finally, the project will also strengthen actions being taken in the department of Huehuetenango in conjunction with the Critical Ecosystem Partnership Fund for the conservation of threatened BD.

2.4. Project objective, outcomes, and outputs/activities

83. The **project objective** is to strengthen land/forest management processes and BD conservation in order to secure the flow of multiple ecosystems services while ensuring ecosystem resilience to CC. The project's outcomes and outputs are described below.

Component 1 – Regulatory and institutional framework integrates principles of sustainable forest management (SFM) and sustainable land management (SLM), and strengthens integrated environmental land management capacity.

84. This project component will allow the development of a legal, planning, and institutional framework for integrating SFM/REDD+ and SLM principles (e.g., integrated approach to managing forest ecosystems, adaptation and prevention of LD, and integration of people's livelihood objectives within the management of forest ecosystems), within national environmental and development policies. The outcomes and outputs defined for this project component are described in the following paragraphs:

Outcome 1.1 – Enabling policy and institutional environment for integrating principles of SFM and SLM into territorial planning through national-level policies to ensure the flow of multiple ecosystems services for SFM/REDD+, LD, and CCM.

Output 1.1.1 – Interagency agreement for cooperation between the MARN, CONAP, INAB, MAGA, and the ANAM allows inclusion of SFM / SLM principles into forestry and agricultural policies, and ensures permanence of the project's benefits.

85. Currently there are interagency agreements between the MARN, CONAP, INAB, MAGA, and ANAM that would facilitate the collaboration and coordination between two or more of these agencies. However, it was noted during the PPG phase that none of these agreements make specific mention about the SFM/SLM principles. To include these principles in forestry and agricultural policies, the project will support the modification of these existing agreements and/or the subscription of new agreements between the agencies. Consultations will be held with the corresponding authorities in each of the participating agencies to determine the feasibility of a simple modification of the existing agreements or the subscription of a new one. If it is determined that the most appropriate measure is to subscribe to a new agreement, a single new agreement will be chosen for all agencies' inclusion.

86. Following this, the project team and members of the GEF technical committee of the MARN will develop draft modifications and/or the interagency agreement; this will be presented to the interested agencies for development of institutional technical and legal opinions. In developing the draft agreements, details will be incorporated that allow the benefits of the project to be of a permanent nature, including mechanisms for the easy exchange of information among the different agencies and the collaborative use of the different planning and monitoring instruments that will be developed through the project (e.g., MRV mechanisms for SFM, SLM, and REDD+ [Outputs 1.2.1 and 1.2.3]; municipal-level GIS mapping tool to assess SFM/SLM [Output 1.2.2]; and municipal development plans that incorporate SFM/REDD+ and SLM principles [Output 2.4.2]). In addition, details will be included for the creation of an interagency committee that will have as its principal objective ensuring compliance with the agreements and commitments, to ensure the effective incorporation of SFM/SLM principles into the forestry and agricultural policies.

87. Once the technical and legal approvals have been given, the modifications and/or the interagency agreement will be signed by the highest-level officials from each agency and will be published in the Official Gazette. The interagency cooperative agreement will be developed during the first two years of the project.

Output 1.1.2 – National Action Program to Combat Desertification and Drought updated

88. The project will update the PROANDYS, which was developed by the MARN in 2007 in fulfillment of the commitments of the GoG with the UNCCD. PROANDYS is the national strategy through which responsibilities such as the actions required to address LD and negative impacts caused by drought based on bioclimatic data are developed. However, this program must be updated to include bioclimatic elements to its content that were not considered or were not included sufficiently in the original document. To achieve this, the project will develop the following activities through the contracting of a consultant and with guidance provided by the MARN's Unit to Combat Desertification and Drought and the Guatemala Interinstitutional Technical Group (ITG) for SLM: a) development of a proposal for updating bioclimatic and biophysical information of the PROANDYS through a review of the current version, including developing maps, analyses and modeling of current and future scenarios using climate variables and the potential impacts considering projected population increase; b) consultation and validation with national stakeholders (e.g., MARN, MAGA, INAB, CONAP, National Council for Disaster Reduction [CONRED], Rafael Landívar University [URL], the Institute of Agricultural Science and Technology [ICTA], Institute of Seismology, Volcanology, Meteorology, and Hydrography [INSIVUMEH], and the Ministry of Energy and Mines) to establish the elements that were not considered in the current version of the PROANDYS, including aspects related to climate change, water resources and watersheds, forests, food and nutritional security; c) development of a new PROANDYS document aligned with the 10-year strategy of the UNCCD as required by the Convention; and d) dissemination of the document through the ITG in order to inform a wide group of stakeholders about its content so that it is consider in the development of policy and management related to land use and forests conservation and management at the local and national levels. The PROANDYS will be updated during the first two years of the project execution.

Outcome 1.2 – Improvement by 10 percent in the capacity of national technical staff as measured by capacity development indicators (CONAP, INAB, and MAGA): 40 national technical staff trained in SLM, SFM, REDD+, and C monitoring.

Output 1.2.1 – Strengthened capacity of government officials and field staff (foresters and agricultural extension officers) in LULUCF management practices, SFM/REDD+ methodologies, and MRV.

89. The project will strengthen capacities so that the country has effective mechanisms in place for MRV within its national institutions and the municipalities regarding SLM, SFM, LULUCF, and C flows. Currently, capacities of MRV only exist within CONAP's Center for Evaluation and Monitoring (CEMEC). The project will build on the CEMEC experience for supporting the development of MRV capacities related to SLM, LULUCF, SFM/REDD+, and C flow assessment and monitoring at the national level. The specific activities to be developed by the project are: a) development of protocols for gathering data at local and national levels for analysis, protocols for information quality assurance and quality control (QA/QC), and protocols for data storage and security, analysis, and publication; b) development of databases (land use, forest inventory, and C stocks); c) development of an institutional strengthening plan, including design and/or recommendations for the development or purchase of the related software and hardware, defining institutional mechanisms for the medium- and long-term operation, maintenance; and d) development of the MRV system, identifying and defining any legal or policy adjustments needed for development and operational, and training of government officials and field staff (foresters and agricultural extension officers) in SLM, SFM/REDD+, LULUCF, and C flows in monitoring and MRV system operation. The MRV system for SLM, LULUCF, SFM/REDD+, and C flows will be linked to the national MRV systems for REDD+, the national GHG inventory, and the national forest inventories. These activities will be developed during the first two years of the project and will involve a national or international firm with extensive experience in MRV system development.

90. With regard to REDD+, the project will first strengthen capacities of central government authorities (MARN, MAGA, CONAP, INAB) to prepare a proposal for defining stakeholder rights regarding emissions reduction, so that a payment for performance scheme (such as the VCS) may be proposed for the pilot projects to be developed through Component 2. These agencies will also be provided training to define the legal arrangements for the collection of benefits regarding emissions reduction at the municipal level for forests under different property and ownership regimes. Second, capacity will be developed for the preparation of a proposal to define the appropriate methodological approach to REDD+ so that the pilot projects that will be developed as part of this GEF investment will be aligned with and will contribute to the development of the national methodological framework, and whose basic elements are defined in the R-PP. Third, the officials will be trained in the preparation of a proposal to define criteria and evaluation procedures, review, and registration of the REDD+ initiatives at the national level so that the pilot projects to be developed through Component 2 generate knowledge regarding the way in which the REDD+ initiatives may be developed and presented at the municipal level so that they may be reviewed, endorsed, and registered nationally. Finally, they will be trained in the preparation of a proposal to establish a national MRV system that is fully operational. This is important to ensure that the pilot projects have calibration data for their sub-national baselines and so that, at the very least, towards the end of the project they will be able to provide verification of emissions reductions in order to generate C credits and receive performance-based payments. All training activities will be completed during Year 3 of project implementation and up to 40 technical staff from MARN, MAGA, CONAP, and INAB will be trained in SLM, SFM, REDD+, LULUCF, and C monitoring.

91. The project will also provide support for updating maps of forest cover change for Guatemala during the period 2002/4 to 2006/8 and 2006/8 to 2012/14, applying the methodological standard established at the national level. The forest cover change maps for Guatemala show inconsistencies and their level of accuracy may be insufficient to meet the REDD+ international standards requirements. In the case of the Northern Lowlands region, the forest cover maps had to be redeveloped to comply with the minimum thresholds of accuracy of the VCS. In order to develop the sub-national baselines in the Western and

Central-Eastern sub-national regions where the two REDD+ pilot projects will be located[21], and for the development and validation of the national methodological standard of the MRV, the national forest cover change maps for the historical periods indicated previously must be updated. This activity will be completed during the first year of the project with cofinancing and will involve the project team, CONAP and INAB technical staff, and an expert in forest cover mapping. In addition, the consulting firm charged with developing the MRV standards will collaborate with the national institutions that will update the forest cover change maps.

Output 1.2.2 – Municipal-level SFM/SLM GIS mapping tool benefits the development and guides the implementation of municipal development plans at the national level.

92. The project will put into place spatial and field-based tools that will enable national environmental agencies (MARN, INAB, and CONAP) to better assess and support actions at the local level (municipalities); these tools will be made available nationwide. These include a municipal-level GIS mapping tool to assess SFM/SLM benefits that will support the development and implementation of municipal development plans and a protocol for monitoring C flow (Output 1.2.3) that will be articulated with municipal land use plans (Outputs 2.4.2 and 2.7.2). The platform in which the municipal-level GIS mapping tool will operate is the Municipal Environmental Indicators System (MEIS), which is a geospatial system based on the ArcGIS Server 10 program operated by the MARN, and whose objective is to strengthen the process of decentralizing of environmental management to the municipal and department levels. The MEIS is designed to capture, read, and manage data and also has the capability of visualizing, managing, and classifying information for each decentralized entity (municipality or other) independently.

93. In order for the MEIS to satisfy the objective of serving as an information platform that supports the inclusion of SFM and SLM elements in the municipal development and land use plans, a SFM/SLM module will be created or developed within the MEIS during the first year of the project. The MARN, through the Environmental Information Systems Unit (EISU), will be charged with its development. This module will enable the storage and management of information generated at the farm and municipal landscape levels through geographical mapping, satellite imagery, and social mapping; the information will be centralized in regional information nodes operated by the MARN's regional offices. The SFM/SLM module, which will be centralized at the national level within the MARN, will be linked to less sophisticated systems (less expensive and easier to operate) at the municipal and sub-national office levels (of the MARN, INAB, and CONAP) as a tool that can be accessed through the internet. The municipal and sub-national offices will have the capability of generating data and information in accordance with national methodological protocols. In addition, informational linkages will be established with the INAB, CONAP, and MAGA information systems. Additionally, during the life of the project, all GIS with its databases and mapping information will also provide necessary inputs for the project's monitoring system to assess SFM and SLM expected benefits, including the MRV system for SLM, LULUCF, SFM/REDD+, and C flow assessment and monitoring (Output 1.2.1).

94. The EISU-MARN will be equipped to design and operate the SFM/SLM module within the MEIS, allowing it to operate, modify, and manage the system in addition to manipulating data to ensure that the system may be used by the end users (the municipalities). This will include: a) obtaining the ArcGIS Desktop 10.1 software operating license; b) obtaining the hardware and software to store the information generated and make it available primarily to the users in the municipalities; and c) training a person to manage the SFM/SLM module who will serve as the point of contact for the municipalities to request and distribute spatial information related SFM and SLM, and who will support the development of municipal development and land use plans. This person will be trained during the first year of the project by the EISU-MARN staff.

[21] Sub-national regions refer to the sub-national zoning defined by the GoG for the REDD+ implementation nationally.

95. The project will also strengthen the regional offices of the MARN, CONAP, and INAB in the two Pilot project regions with the installation of the SFM/SLM Module so that they are interconnected online with the central GIS of the EISU-MARN and can exchange information and make it available in real time, in addition to being able to generate information and feedback in the same manner. At the same time, the regional offices will be interconnected with the municipal offices to provide support and facilitate the flow of information in both directions. Beginning in the third year of the project, the operation of the municipal-level GIS mapping tool will be used to assess the SFM/SLM benefits in the two prioritized regions (i.e., pilot projects) to test and learn from the system so that any necessary adjustments can be made to the SFM/SLM module within the MEIS before it can be made available nationally by project's end. A user's manual will be developed for the users of the municipal-level GIS mapping tool, which will be made available in hard copy and online. The EISU-MARN team will be charged with its development and it will be developed during the first year of the project. The necessary training to use the manual will be carried out, as well as the functioning of the SFM/SLM module in the two pilot project regions geared towards users from the municipal level (officials from the 15 municipalities in the southeastern region and from the five municipalities in the western region) and the institutional/sub-national level (MARN, CONAP, and INAB). This training will be done during the first two years of the project by the EISU-MARN team.

Output 1.2.3 – National protocol for the monitoring of C flow developed and articulated with forest production / management plans (INAB), land use planning (municipalities), and conservation plans (CONAP).

96. The development of the national monitoring protocol of C flows will be coordinated among the MARN, CONAP, INAB, experts from the civil society (e.g., NGOs and universities), prioritized municipalities, and the project team to define the necessary elements for measuring and monitoring C emissions or removals due to land use and land cover change, including deforestation, degradation, conversion, afforestation, and natural regeneration. The protocol will address themes such as establishing the baselines (sub-national and its aggregation to the national level), leaks, permanence, under-performance, accounting of emissions reductions, and governance, among others. Aspects regarding the MRV activities (deforestation, degradation, sinks) will be addressed in Output 1.2.1. The protocol will be consistent with international standards outlined in the guidelines of the Intergovernmental Panel on Climate Change (IPCC), the requirements for VCS-JNR (Jurisdictional and Nested REDD+, see Output 2.2.1), and other relevant schemes.

97. The first activity will be the preparation of a proposal for the national methodological standard for monitoring C flows/REDD+, for which a consultant or firm specializing in this issue will be contracted. Three national workshops will then be held to discuss the proposed standard for monitoring C flows; the workshops will consist of the project team; experts from MARN, CONAP, and INAB; representatives from civil society and the prioritized municipalities; and the consultant and/or proposing firm. The first workshop will be a startup workshop to discuss the scope of the protocol; the second workshop will focus on the analysis of the proposed protocol, and the final workshop will serve to endorse the final proposal.

98. Following this, an independent international expert (or an accredited VCS auditor) will review the proposed protocol and the corrections that are recommended as a result of this review will be made. This activity is proposed to ensure that Guatemala will have a national methodological monitoring standard for the C flows/REDD+ that will be accepted internationally, and that comply with the IPCC, the Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD), the UNFCCC REDD+ mechanism, the FCPF, and the VCS-JNR, among other relevant international schemes. Once the review process has been completed, the application will be made for the C flows/REDD+ monitoring and MRV methodological standards in the two sub-national regions (western and central-eastern) to validate the draft standards, establish sub-national baselines, and ensure that they (including the updated historical deforestation maps) are later integrated at the national level.

99. During the first two years of the project the methodological standards for C flows/REDD+ monitoring and MRV will be developed in parallel with the application of its draft versions (to be established in the first 6 months of the project) in the two pilot regions of the project (see Component 2). They will be developed in parallel and in iterative form, maintaining adequate channels of communication and coordination among the different consulting teams and relevant governmental institutions (MARN, CONAP, and INAB). In order to facilitate the process and ensure the quality of the technical results, the consulting group charged with the development of the methodological standards for monitoring C flows/REDD+ will develop the baseline for emissions for the western and central-eastern regions.

100. Finally, a workshop to evaluate the results of the validation of the standard will be held in order to discuss and decide upon eventual changes, which once approved, will allow the approval of the standard by the MARN. The standard will be published in digital media and printed. This final activity will be performed by the project team jointly with the MARN.

Component 2 – Pilot projects for SFM/REDD+ and SLM reduce LD, improve C stocks, and enhance BD conservation in southeastern and western Guatemala.

101. Reduced LD, improved C stocks, and enhanced BD conservation in southeastern and western Guatemala will be achieved through two pilot projects. Pilot Project 1 will implement SFM/REDD+ and SLM practices in southeastern Guatemala, improving C stocks and reducing dry forest deforestation. Pilot Project 2 will implement SFM/REDD+ and BD conservation activities in western Guatemala (department of Huehuetenango), increasing ecosystem connectivity and contributing to the conservation of key habitat for globally important BD that is considered threatened, including locally and regional endemic species, and improving C stocks in a humid mountain forest/agriculture landscape. The outcomes and outputs defined for this project component are described in the following paragraphs.

Pilot 1: SFM/REDD+ and SLM improve C stocks and reduce dry forest deforestation in a dry mountain landscape in southeastern Guatemala.

Outcome 2.1 – Improved SFM/REDD+ and SFM restore C stocks of dry forest over a 5-year period (i.e., project length): 116,848 tCO2 eq sequestered (3,500 ha; aboveground biomass).

Output 2.1.1 – REDD+ pilot project targeting 17,456 ha; 3,500 ha of which will be restored and reforested by planting native species and through natural regeneration.

102. The development of the REDD+ pilot project targeting 17,456 ha in the southeastern region consists of three work phases. During the first phase of work, a work group will be formed among several national institutions (MARN, MAGA, CONAP, INAB, SEGEPLAN, and ANAM) and CSOs that have a history and interest in the development of REDD+ in the central-eastern sub-national region, where the REDD+ pilot project for dry forests will be implemented. The specific activities for this first work phase will require an initial workshop with the institutions and organizations interested in establishing an alliance and a steering committee (or a CC and SFM/REDD+ working group) to develop an emissions baseline for deforestation for the central-eastern sub-national region, and an SFM/REDD+ work plan with and for the municipalities prioritized by the project. The project team will develop this activity during the second quarter of the first year of project execution together with the institutions and organizations identified by the team. Synergies with other stakeholders, initiatives, and financing sources will be established in order to develop a jurisdictional REDD+ pilot project (refer to Output 2.2.1) in the 15 municipalities that were selected. The experience in the Northern Lowlands teaches that this is possible if a good facilitator/coordinator exists. On the other hand, the creation of this type of "alliance" is consistent with the R-PP, in which the creation of the "Regional Work Groups" for "Climate Change, Consultation, and Forestry Policy" and "Co-management of Protected Areas" is discussed. Second, the establishment of inter-institutional cooperation agreements to co-finance the establishment of a sub-national baseline for the central-eastern sub-national region and for the preparation of a VCS-JNR Project Description (PD) and Climate, Community, and Biodiversity Standards Project Design Document (CCB Standards PDD)

for the 15 prioritized municipalities. This activity will be facilitated by the project team during the second quarter of the first year of project execution.

103. During the second phase of work the reference scenario for emissions (or baseline) will be developed for the central-eastern sub-national region with assistance from a national or international consulting firm with experience implementing REDD+, preferably the same firm that will assist in the development of a national REDD+ standard (Output 1.2.3) to ensure that there is consistent methodology between the two processes. The institutions and organizations of the alliance formed during the first phase of work will contribute to the creation of the baseline by supplying valuable information that they have available. A guiding committee (with members from the alliance and the project team) will be established to supervise and guide the work of the consulting firm and will establish the necessary links with the national institutions, including the GCI, to obtain feedback and policy and methodological advice that is needed at the national level so that this process is articulated with the development of the National REDD+ Strategy in Guatemala. The committee will also establish the necessary inter-institutional agreements to ensure that adequate financing is available during the entire development process for the sub-national baseline. This strategy functioned successfully in the case of the Northern Lowlands Region and for this reason is proposed as a strategy to follow for this project.

104. During this work phase three meetings with the GCI (National REDD+ Strategy) will be held to present the proposed work in the central-eastern sub-national region, and to present the preliminary and final results in order to obtain the no-objection/approval at the national level for the sub-national baseline for the central-eastern sub-national region. These meetings will also serve to establish and maintain the appropriate channels of communication and coordination among the groups leading the technical work in the central-eastern sub-national region and the 15 prioritized municipalities, the work groups that will develop the REDD+ and the MRV methodological standards, the GCI, and other relevant stakeholders (e.g., FCPF and the IADB). The specific activities for the second phase of work are:

- Contracting a national or international consulting firm with experience the implementation of REDD+ and the development of baselines to guide data collection and the establishment of the baseline, following the VCS-JNR requirements as well as the national guidelines for REDD+ development.
- Collection of data and available information by the members of the alliance (e.g., changes in forest cover, current land use practices, C stocks, and spatial data required to model deforestation, among others) and identification of information gaps by the consulting firm.
- Workshop to present the information gathered and the gaps, discussing the strategy for collecting information that is lacking and to establish a work plan for such activity.
- Generation of the missing information (global positioning system [GPS]-based surveys of key data not included in available digital map, measurements of C stocks, analysis of remote sensing images, etc.) by the participating institutions under the guidance of the consulting firm.
- Development of a technical (literature review) and participatory (workshops) analysis of the agents and causes of deforestation, to be reconciled with historical deforestation maps.
- Integration of all of the information gathered into a GIS and database of C stocks by the consulting firm.
- Creation of spatially explicit deforestation scenarios by the consulting firm, applying an approved methodology by the VCS-JNR and GCI guidelines relative to national methodologies and standards for REDD+.
- Presentation and discussion of the different scenarios created in workshops with members of the alliance to select the most realistic scenario for the sub-national region.
- Presentation of the scenario selected to the GCI for feedback and if possible, approval.

- Estimation of the baseline emissions associated with the selected deforestation scenario and preparation of the technical report by the consulting firm.
- Validation and registration of the baseline for the central-eastern sub-national region with VCS-JNR.

105. The second phase of work will be carried out during the final quarter of Year 1 of the project and the first quarter of Year 2; the work will be led by the project team with the participation of the institutions that comprise the GCI (MARN, MAGA, CONAP and INAB). The validation of the sub-national baseline for the central-eastern subnational region under the VCS-JNR will be performed beginning in the second quarter of Year 2 of the project and will involve a VCS evaluator. The validation of the sub-national baseline will be applicable to any REDD+ project that is developed in the future in the central-eastern sub-national region.

106. During the third phase of work the municipalities with the greatest potential to generate emissions reductions will be identified and contacted to review their forestry policies, forest governance systems, needs for strengthening capacities, and other key themes to establish municipal action plans. The municipal action plans and the sub-national baseline will be submitted to a specialized consulting firm (national or international) to develop a PD document which will be created according to the requirements of the VCS-JRN standard and other requirement or safeguard that is defined at the national level. Although 15 municipalities in the central-eastern sub-national region and the five municipalities in the western sub-national region have been prioritized, it is only after having developed the sub-national baseline that it will be possible to define which municipalities truly have a substantial potential for reducing emissions. The selection of the municipalities that will participate as proponents of a jurisdictional VCS project will take into account the baseline criteria and the capacity and interest of the municipalities in improving their forest governance and participating in a jurisdictional VCS project, including their level of commitment (contribute to the financing of a Project Management Unit [PMU], contribute to the monitoring, implement the actions defined in the municipal development plans, etc.). The specific activities for the third phase of work that will be developed beginning in the second year of the project are:

- Planning workshops with municipalities, Departmental Development Councils (CODEDES), COMUDES, COCODES, and national institutions (CONAP, INAP, ANAM, and SEGEPLAN) to define the REDD+ intervention strategy in the municipalities, including selection of the specific REDD+ pilot project area; to identify the potential project proponents; to define the project activities, and their cost and financing mechanisms. The proponents of the project shall have demonstrated rights of ownership over the reduction of GHG emissions in order to receive the pertinent benefits. Legal support (national or international) regarding this issue will be provided during an early phase of the project to resolve possible conflicts about ownership rights over emissions reductions or the mechanisms to access performance-based payments, particularly in the case of a municipal jurisdictional program that would encompass territory with different situations of ownership and possession of the forests.
- In each of the two pilot sites the REDD+ project activities will be defined in a participatory way, with consideration given to the municipal development policies and plans and the projects and plans of other parties that are involved in the municipalities. The following should be defined, among others: a) the project activities; b) the roles of each project proponent and participant; c) the cost of each activity; d) the financing mechanisms; e) the distribution of costs and benefits among participants and proponents; f) the project management (including its long-term financing); g) the legal arrangements needed to implement the project; h) the procedures to obtain and document the free, informed, and prior consent (FPIC) and resolve conflicts; i) the monitoring plan; and j) other aspects related to the design and implementation of the project. This work will require various drafts among the project proponents, the municipalities, the institutions,

the steering committee, and the local communities, as well as workshops with the consultants charged with the development of the project documents.

- Preparation of the project design documents (VCS-JNR Project Descriptions [PDs] and CCB Standards Project Design Documents [PDDs]). This will be done with assistance from the national or international consultant firm
- Establishment of the PMU. Given that the minimum duration of a REDD+ project (Avoided Unplanned Deforestation [AUD] – VCS) is 30 years, a PMU should be established to provide support to the municipalities for project implementation (e.g., activities, MRV, certification, and marketing of carbon credits, and promoting reforestation) during this long period. The PMU will be established by the REDD+ pilot project proponents with initial support from the GEF project team.
- Validation and registration of the project under the VCS-JNR and CCB Standards. This activity will be carried out by the project team, the VCS and CCB Standards evaluators, and the REDD+ project proponents.
- Monitoring of deforestation and preparation of a report about the reduced emissions according to the validated monitoring plan.
- In the last year of the project, verification of the emissions reductions achieved; search for purchasers of Verified Carbon Units (VCUs), and preparation of a contract of sale (Emission Reduction Purchase Agreement [ERPA]) with the support of a legal consultant (national or international with experience in this topic) and the supervision of the project team.

107. An estimated 94,544 tCO_2-e will be enhanced over a 5-year period as result of the reforestation and natural regeneration activities to be implemented as part of the REDD+ pilot project.

Outcome 2.2 – Avoided emissions due to dry forest deforestation: 413,114 tCO2 over a 5-year period (baseline area = 17,456 ha; aboveground biomass).

Output 2.2.1 – Methodology for REDD+ pilot project in the dry forest applied.

108. Following STAP's suggestion at the time of the PIF, a methodology for the two REDD+ pilot projects to be implemented by this GEF investment was selected among those approved by the VCS. The methodology selected is VCS methodology VM0015. This methodology was developed on behalf of the World Bank (BioCarbon Fund) and the Brazilian Foundation for Sustainable Amazonas (FAS). Experience with this methodology in the Northern Lowlands has proven that it is applicable in Guatemala. A description of the VCS methodology VM0015 is included in Annex 8.6.

109. The application of this methodology should consider the forthcoming requirements of VCS-JNR, as these requirements were designed for jurisdictions adopting a "nested approach,"[22] such as in Guatemala. The links and compatibilities between stand-alone project methodologies and VCS-JNR requirements are still unclear, as the final version of the JNR requirements has not yet been published. However, the Carbon Accounting /REDD+ Expert financed by the PPG, who authored the VM0015 and participated in the preparation of the VCS-JNR requirements, estimates that compatibility issues between VM0015 and VCS-JNR should not be substantial, and that addressing them will be feasible in the context of Guatemala. In fact, many principles and approaches outlined in VCS-JNR requirements have already been implemented in the Northern Lowlands, where VM0015 was applied.

110. In addition to the technical steps for calculating baselines and net GHG emission reductions according to VCS methodology VM0015, the GEF investment will enable the preparation of project

[22] An accounting, management, and incentive system that accommodates activities and incentives to reduce emissions at various activity and implementation levels. Where projects are nested within sub-national or national programs, activity-specific emissions are deducted from the broader (national or regional) accounting for emission reductions against a reference level.

design documents under the CCB Standards, as these standards are used to ensure biodiversity and social benefits. Meeting the requirements of the CCB Standards has become a common practice in the development of REDD+ projects, which is also important to ensure that safeguards are adequately adopted beginning in the project design stage.

111. The specific activities for the application of the selected methodology are: a) collection by the organizations that are part of the alliance working group of existing data as well as information about the forest cover change, current land use, C stocks, and spatial data regarding variables that affect the spatial patterns of deforestation; b) fieldwork to fill in information gaps with the support of the alliance group of institutions and organizations (it is assumed that these institutions and organizations will provide new data and efforts as it becomes available and will receive support from GEF funding); c) analysis of direct and indirect causes of deforestation; d) three workshops to present and validate the results of the regional baseline projections with the alliance group members (the project team will facilitate and the Alliance members will participate); and e) creation and establishment of local conservation agreements in order to promote the forest restoration, including the restoration with GEF funds of 5,160 ha by planting native species and through natural regeneration.

112. The selected VCS methodology (i.e., VM0015) will be applied during project implementation, as data requirements and the requirements of the VCS (or VCS-JNR) methodologies are complex and demanding in terms of information and data that were not possible to obtain during the PPG phase. However, the preliminary REDD+ pilot project site, preliminary baseline emission scenarios without the project and with the project, estimated baseline deforestation, as well as carbon credits expected from REDD+ activities are included in Annex 8.7.

Outcome 2.3 – Improved dry forest management delivers sustained water flows in two watersheds.

Output 2.3.1 – SFM/SLM plan for the upper and mid sections of the Ostúa River watershed associated with dry forests and the Ayarza Lagoon include planning for firewood use, establishment of riparian buffers strips, and use of windbreaks and live fences.

113. Through the project SFM/SLM plans for the Ayarza Lagoon watershed (3,112.45 ha)[23] and the upper and mid-sections (30,729.6 ha and 52,239 ha, respectively) of the Ostúa River watershed[24] (see Figure 2) will be developed. The main objective of the SFM/SLM plans in each of these watersheds will be to reduce pressure on dry forest ecosystems and to generate sustainable flows of dry forest ecosystem services, including enhancement of C stocks, improved soils and hydrological capacity to increase productivity and the livelihoods of the rural and urban communities within these two watersheds, and quality habitat for BD. Baseline analyses conducted during the PPG indicate that between 2001 and 2010 the average annual gross deforestation reached 7.0% and an average of 496,353 tCO_2-e annual emissions in the 15 prioritized municipalities of the southeastern region where these two watersheds are located. The primary reason for forest loss has been the expansion of agriculture and firewood extraction. Additionally, based on data from two limnimetric stations along the Ostúa River watershed, the PPG studies also found a decrease of up to 0.67 m in the level of the river during the period 2003 to 2010.

114. The SFM/SLM watershed plans will be developed cooperatively by the national agencies (MARN, CONAP, MAGA, and INAB), local governments (municipal councils/COMUNES, COCODES), and local communities (farmers, other watershed residents, and CSOs). This will allow defining shared goals

[23] The Ayarza Lagoon is one of the seven most important water bodies in Guatemala. The lagoon is in a socioeconomically impoverished area; deforestation is the main pressure in its watershed.

[24] The upper section of the Ostúa River watershed is located principally in the municipalities of Jalapa, San Carlos Alzatate, and Jutiapa. Because of its location, it is very important for hydrologic regulation and catchment from the Ostúa River, which runs through the largest dry forest area in the region. The mid-section of the Ostúa River includes three sub-watersheds and is located in the municipalities of Monjas, Santa Catarina Mita, Asunción Mita, San Manuel Chaparrón, San Pedro Pinula, and Progreso, within which dry forests and the thorn scrub are found.

and outlining SFM/SLM actions for the sustainable management of land, water, forest resources, and agricultural and other production activities for the watersheds (i.e., integrated watershed management). The SFM/SLM watershed plans will emphasize planning for firewood use, including a) the reduction of pressure on the dry forest from firewood extraction by designing strategies to improve energy efficiency; b) reducing deforestation through incentives for conservation and natural regeneration of degraded areas (PINFOR, PINPEP, and REDD+); c) reforestation through incentives from PINFOR and PINPEP giving priority to degraded rivers banks and groundwater recharge areas; d) promotion of sustainable agriculture, sustainable agroforestry, and silvopastoral systems with native species for soil conservation, improved C stocks, and increased food security for rural communities (with support from PINFOR and PINPEP); and e) increased ecological connectivity and improved forest BD values at the landscape level through buffer zone management and corridors along water courses.

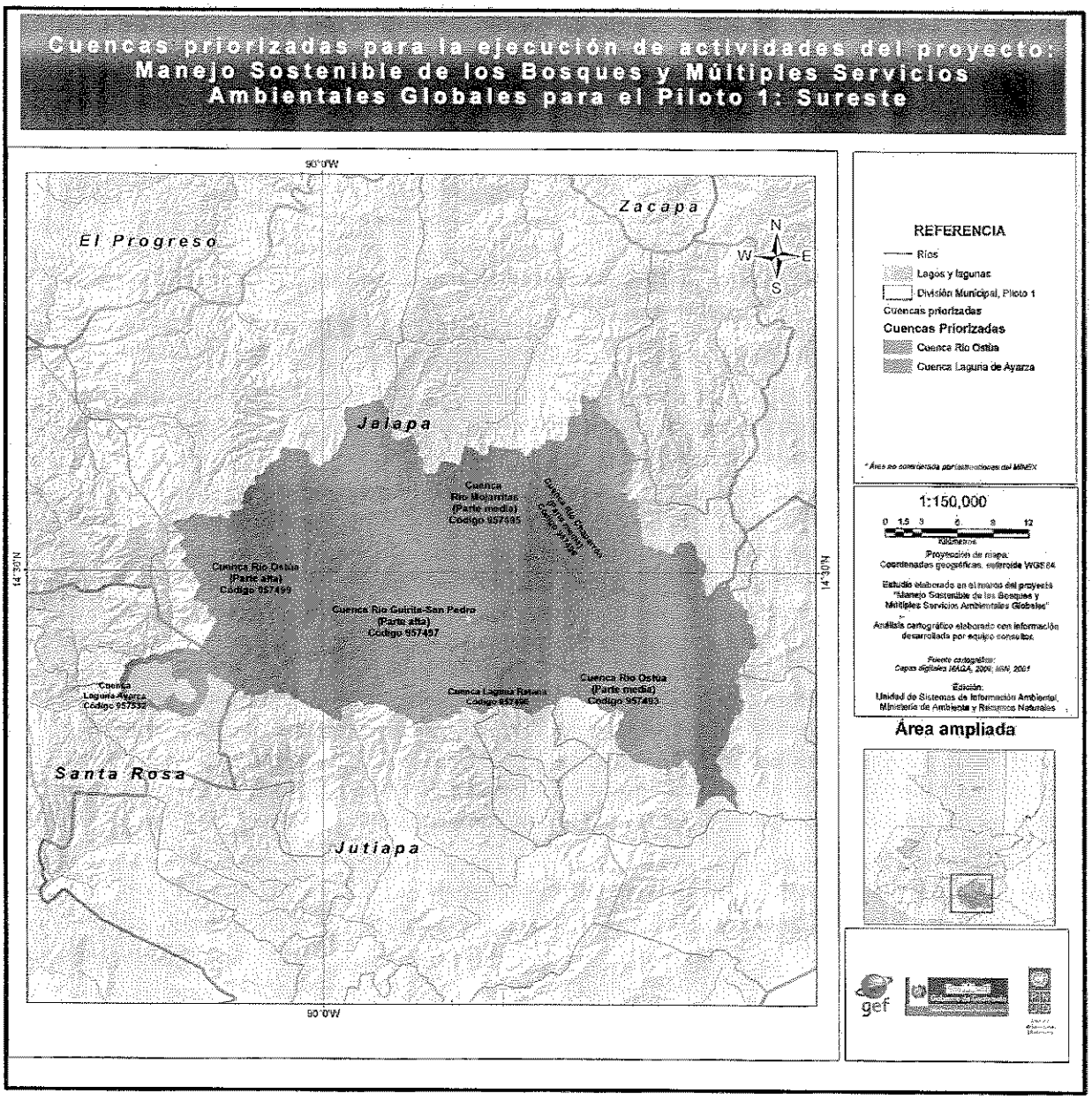


Figure 2 – Location of the Ayarza Lagoon watershed and the upper and mid-sections of the Ostúa River watershed.

115. The development of the SFM/SLM plan for each watershed will include the following activities, which will be developed by the project team with the support of a watershed planning expert to be hired with GEF funds: a) host public meetings locally to gain input on issues regarding forest, land, and water management (at least two meetings in the Ostúa River watershed and one meeting in the Ayarza Lagoon watershed); b) establish a watershed planning team, one team for each watershed (representatives from national/regional agencies, local governments, local communities, and the watershed planning expert) and hold meetings to share and review public input on forest, land, and water management issues; c) develop a watershed characterization (social, environmental, economic/production, and institutional characterization) and outline an action plan for each watershed; d) watershed planning expert and project team to develop an outline of a watershed plan (one per watershed) with support from MARN, INAB, and MAGA technical staff, to be discussed with each watershed planning team; e) write a draft plan for each watershed and hold meetings with each watershed planning team to review budgets, measures of success (including SFM- and SLM-based progress and impact indicators), and a timeline for implementation; f) hold meetings with local interest groups (farmers, other watershed residents, CSOs, COCODES, COMUDES) in each watershed to present the SFM/SLM plans; and g) publish and distribute the SFM/SLM plans.

116. As part of the institutional arrangements necessary for the effective formulation and implementation of the SFM/SLM plan in each watershed, the project will promote the participation of INAB and MAGA forestry and agricultural extension services, respectively. This will serve to address the needs the local communities in terms of production (agriculture, cattle ranching, and sheepherding) while promoting the sustainable management of forests and soils at the farm level. Additionally, this will provide a spring board for the implementation of the SFM/SLM plans in each watershed through the project. To achieve this, cooperation agreements will be signed between the project, with the participation of the MARN, and those institutions where mechanisms of support for developing proposals for the SFM/SLM plans will be indicated. The agreements with the INAB will include provisions for the use of incentives through PINPEP and PINFOR that would contribute to SFM and to improving dry forest C stocks, as well as to the development of the local skills necessary for implementing the related actions. The agreements with the MAGA will allow the definition of mechanisms to provide the necessary technical support for implementing SLM practices for soil conservation and to reduce degradation, including the BMPs for sustainable agriculture (use of organic fertilizers, reduced use of chemical pesticides, instead favoring the mechanical removal of pests), silvopastoral systems (15 units of silvopastoral management with livestock, including production of forage as an incentive for the development of semi-enclosures for livestock, conservation of foraging areas and soils, livestock medicine cabinets, among others; species to be used include: *Leucaena leucocephala, Gliricidia sepium,* and *Panicum maximum,* among other species) and the establishment of agroforestry systems (organic-based productive modules with incentive aimed at commercial family farming; 30 modules per year during 3 years; species to be used for live fences, contour hedgerows, and firewood/fuel tree banks include: *Grevilea robusta, Inga vera, Inga jinicuil, Quercus sp.,* and *Alnus acuminate,* among other species). The SFM/SLM plans will be completed by the end of the second year of the project, and their implementation will start in year 3 including activities for improving dry forest C stocks through reforestation, rehabilitation, natural regeneration, and agroforestry and silvopastoral systems in coordination with INAB and technical support from MAGA.

117. The implementation of best management practices related to SLM in 100 ha of agricultural lands will result in 512 tCO_2-e of reduced emissions over a 5-year period. In addition, 20,127 tCO_2-e will be sequestered through sustainable agroforestry systems and 2,178 tCO_2-e will be sequestered through sustainable soil management.

Output 2.3.2 – Energy-efficient stoves program reduces firewood consumption and GHG emissions.

118. The project will facilitate the installation of 2,000 energy-efficient stoves for approximately the same number of families in the communities that reside in dry landscapes in southwestern Guatemala and who use firewood as their principal source of energy. Particularly, the energy-efficient stoves program will be

implemented in the lower part of the Ostúa River watershed where firewood is least available. The energy-efficient stoves will help to reduce the consumption of firewood, thereby contributing to the reduction of GHG emissions and dry forest degradation.

119. There have been several similar initiatives in Guatemala with dissimilar results; thus, to ensure the success of the energy-efficient stoves program, the following activities will be developed: First, an analysis will be performed on the use of firewood at the household level in the region, comparing the results against past experiences at the local level in the use of energy-efficient stoves. To achieve this, an evaluation of the needs of the families who will benefit from the program is required to be made (e.g., cooking, heat, etc.) as well as of the factors that determine the efficiency of each type of energy alternative available locally. Cultural and family aspects related to the use of the firewood will also be considered. This information will be evaluated seeking the following: a) identifying the option that best responds to the household and women needs; b) identifying the option that presents the most efficient use of the firewood; and c) identifying the option that is the least costly to implement. Once this preliminary selection is made, the form of construction/implementation of the chosen solutions will be evaluated, principally in order to meet the household needs. The analysis of the use of firewood and the selection of the best option of energy-efficient stoves will be performed during the first year of the project. Second, an experimental phase of the best options identified will be developed in order to evaluate the acceptance, facility, and/or difficulty that women working in the home have in the use and procurement of firewood; efficiency, reduction in the use of firewood; and the maintenance needs. Lessons learned through the experimental phase will allow adjustments to the best options for energy-efficient stoves to be identified and to determine the most effective means for their wide distribution. This phase of the program will be completed during the second year of project execution. Third, the distribution of the proposed solutions (energy-efficient stoves) will be carried out in coordination with representatives from the municipalities who will serve as the links between the project and the participating households and communities. As part of this process the housewives benefiting from the program will be trained in the use of the stoves and will become familiar with the program and will participate in evaluating its success. The project will promote the participation of MAGA's rural extension program through social workers in the municipalities. During the third year of the project all administrative activities with the municipalities will be carried out for the implementation of the program and the distribution of the stoves will begin. During the last two years of the project the program will be consolidated through the training and assistance provided to the benefitting housewives, as well as the follow-up and evaluation.

120. All of the activities related with the energy-efficient stoves program will be developed in coordination with the INAB, within the framework of the National Strategy for Sustainable Production and Efficient Use of Firewood 2013-2024, and the MFOs (or MOEMs) of the prioritized municipalities in the southeastern region so that the best option proposed is socially and environmentally acceptable. Avoided GHG emissions resulting from the implementation of the energy-efficient stoves program is estimated to be 29,866 tCO_2-e; reduced carbon emissions calculations are included in Annex 8.8.

Outcome 2.4 – Improvement by 10 percent in the capacity of municipal staff and community members as measured by capacity development indicators (baseline to be defined during the PPG phase): 60 municipal technical staff and 1,500 community members applying SLM, SFM, and REDD+ practices.

Output 2.4.1 – Strengthened capacity of municipalities and community members in the southeastern region for including SFM and SLM, and REDD+ tools in local development plans in order to contribute to the institutional sustainability of project outcomes.

121. Sixty (60) municipal technical staff and 1,500 community members will be trained through the project in SLM, SFM, and REDD+ practices in the southeastern region to facilitate the implementation of specific activities for SFM/REDD+ and SLM. Additionally, it will build the skills needed to promote long-term collaborative partnerships with central government agencies (e.g., MARN, CONAP, INAB, and MAGA), which will contribute to permanence of the project's benefits and institutional sustainability of the project outcomes.

122. A training program will be designed based on the training needs of local stakeholders and the capacity baseline established during the PPG through capacity development indicators (UNDP Capacity Development Scorecard). Training needs include strengthening knowledge for the design and management of agroforestry systems, sustainable agriculture (including organic agriculture), and reforestation using native species (dry forest), and sustainable management of the forests and soils. The training program will be directed toward forestry and environmental staff from the 15 prioritized municipalities in the southeastern region and the local communities that are located in the Ayarza Lagoon watershed and the upper and mid-sections of the Ostúa River watershed, primarily youth, men, and women dedicated to productive activities. Community training will be directed toward creating increased knowledge about better practices for SLM and SFM and creating increased awareness among the local population about the benefits of agro-environmental land management.

123. The specific activities to be developed are the following: a) design a training program that includes teaching modules and training materials related to SFM, SLM, and REDD+. The teaching modules and training materials will include the use of existing training packets; b) conduct training sessions in the field that will benefit up to 60 municipal technical staff (forestry and/or environmental officers) and up to 300 local famers annually; and c) evaluate the impact of the training through interviews, document review, and follow-up conducted in the field about what was learned and through the application of the UNDP Capacity Development Scorecard (the scorecard will be applied twice more during the life of the project: at the mid-point and end of the project).

Output 2.4.2 – Development plans for up to fifteen (15) municipalities incorporate SFM/REDD+ and SLM principles and their implementing measures.

124. The project will support up to 15 municipalities in the southeastern region in the incorporation of SFM/REDD+ and SLM principles into their development plans. This activity will be led by the project team whom will secure the participation and input from the COMUDES, COCODES, and CODEDES in each municipality. To effectively guide the participation of the municipal authorities and the local participating groups, the project, under the leadership of the MARN and the participation of ANAM and SEGEPLAN, will establish agreements or memorandums of understanding with each beneficiary municipality. These agreements or memorandums of understanding will also help to define the commitments and responsibilities between the project and the municipalities for the development of other actions that will be of benefit to them as part of the actions proposed for the southeastern region by the project (e.g., training, strengthening of forestry/environmental offices, and integrated planning of watersheds). The activities for incorporating SFM/REDD+ and SLM principles into the municipal development plans are the following: a) review of the current status of the development plans jointly with the municipal authorities to determine the needs regarding SFM/REDD+ and SLM; b) development of proposals with SFM/REDD+ and SLM criteria for each development plan, based on its needs; c) meetings and workshops with the municipal authorities and local participating groups to review the proposals, including the budget required for implementation, mechanisms for financing, and schedule; and d) approval of additions to the development plans by the municipal authorities and publication.

Output 2.4.3 – Four (4) environmental/forestry municipal offices (Jalapa, Jutiapa, and Sta. Rosa) fully equipped and with skilled staff for control of forest fires, and enhance conservation of BD and C sequestration.

125. The project will strengthen four (4) municipalities from the 15 prioritized for the southeastern region where, during the PPG phase, it was established that they lacked MFOs or MOEMs. Using GEF funds, each office will be provided with computer equipment (computers, hardware, and software), field measurement and forestry equipment in order for them to function adequately. Software installation will include the SFM/SLM module so that the four municipalities may be interconnected with the EIS and MARN units and able to operate the MEIS (Output 1.2.2). The necessary training will be provided by EIS-MARN personnel to the municipal staff responsible for operating the SFM/SLM module during the second year of project implementation.

126. Through agreements and/or memorandums of understanding, the commitments and responsibilities of the parties will be established. This will include the allocation and funding by each municipality for the staff required to make the MFOs or MOEMs operational and sustainable. The staff assigned to each office will be trained through a program to be developed as part of Output 2.4.1. This will include support of the implementation of the SFM/SLM module for spatial monitoring, whereupon each municipality will have and make available spatial information (land use, forest cover change, agricultural activity, hydrologic network, and others), in addition to support for connecting through the internet (in cases where an internet connections is not available) so that they can have access to data, establish effective and timely communication with multiple stakeholders, and so that they may generate and analyze information, and easily exchange documents and data with national institutions such as CONAP, INAB, MAGA, MARN, CONRED, and INSIVUMEH, among others.

127. In addition, the personnel assigned to each MFOs or MOEMs in the four municipalities will be trained during the second year of project implementation in the control of forest fires, BD conservation, and enhancement of C stocks (primarily through SFM practices, reforestation, natural regeneration, and agroforestry activities). The project will facilitate the development of procedures so that staff may execute, facilitate, and coordinate with the local associations, COCODES, and INAB in the development of these actions.

Pilot 2: SFM/REDD+ increases ecosystem connectivity and contributes to the conservation of BD in a humid mountain landscape in western Guatemala.

Outcome 2.5 – Avoided emissions due to humid montane forest deforestation: 46,024 tCO2 over a 5-year period (baseline area = 34,357 ha; aboveground biomass).

Output 2.5.1 – REDD+ pilot project for 34,357 ha in a production/conservation landscape that includes the Todos Santos Cuchumatanes PA.

128. The activities for the development of the REDD+ pilot project in the western region are the same as those described for the southeastern region in Output 2.2.1. Five municipalities were prioritized in the western region (San Juan Ixcoy, Santa Eulalia, Chiantla, Todos Santos Cuchumatán, and san Pedro Soloma) in the department of Huehuetenango.

129. For the development of the REDD+ pilot project in this region, it is particularly important to establish synergies with public and private agencies, other stakeholders, projects, and donors in order for the development of the jurisdictional REDD+ pilot project to be feasible in the five selected municipalities. Considering that for the development of the REDD+ pilot project a baseline for the Western subnational region must be established, GEF SFM/REDD+ resources will be invested to facilitate and coordinate the process with the support of the MARN. The baseline will be developed with resources from other agencies such as INAB and the Association of Organizations of the Cuchumatanes (ASOCUCH), who are currently negotiating funding from the *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) and the Government of Norway, respectively, to implement SFM/REDD+ actions in the Western subnational region. To assist the five selected municipalities in the same manner that was described for the Pilot Project 1 (Output 2.2.1) and to finance the development of a PD for the VCS or PDD for the CCBS, the same work approach will be adopted; in other words, GEF financing will be used to facilitate processes so that the development of policies, action plans, and project documents (VCS PD or CCB Standards PDD) can be financed with funds from other sources.

Output 2.5.2 – Methodology for REDD+ pilot project in humid montane forest applied.

130. The methodology for the implementation of the REDD+ pilot project in the western region of Guatemala is the same as described in Output 2.2.1. The preliminary REDD+ pilot project site, preliminary baseline emission scenarios without the project and with the project, estimated baseline deforestation, as well as carbon credits expected from REDD+ activities are included in Annex 8.7.

Outcome 2.6 – No net loss in forest cover (13,843 ha) in five forest/agricultural production landscapes (listed in the text) maintains stable numbers of species of biological groups (plants and amphibians).

Output 2.6.1 – Biological corridor established (420 ha) between forest remnants.

131. In order to promote ecological connectivity between natural forests existing in the prioritized region of western Guatemala, the project will support the establishment of a 420-ha biological corridor. This biological corridor will contribute to the conservation and management of the large forested areas located in the Todos Santos Cuchumatán MRP, municipal forests of Piedras de Kab'tzin, community forests of San José and San Francisco las Flores, Cerro Cruz Maltín, and municipal forests of Cerro Yaxcalamté. Together these areas cover approximately 13,843 ha of humid forests, including low mountain forests of pine and oak and humid montane forests.

132. During the PPG phase preliminary identification was made of the areas where the biological corridor would be established (see Figure 3). During the implementation phase, a verification of these areas will be performed jointly with the municipal and community officials, among which are the municipalities of San Juan Ixcoy, Todos Santos Cuchumatán, San Pedro Soloma, Santa Eulalia, and Chiantla, as well as more than 15 communities with whom four agreements for the conservation of BD and forests (Output 2.6.2) will be implemented, including the indigenous organizations ASILVO CHANCOL and ICUZONDEHUE. Once agreements are made regarding mechanisms for participation in the creation and management of the corridor, the following activities will be developed by FUNDAECO in coordination with the project team: a) detailed maps of the forest cover in the areas where the corridors will be implemented; b) development of forest inventories and development of proposals to access incentives for reforestation and regeneration through PINFOR and/or PINPEP, including the forest management plan; and c) reforestation and regeneration of the ecological areas important for connectivity, including the implementation of the forest management plan. On an annual basis the INAB will carry out a certification process to verify the reforestation and regeneration under the PINFOR/PINPEP program, which it administrates.

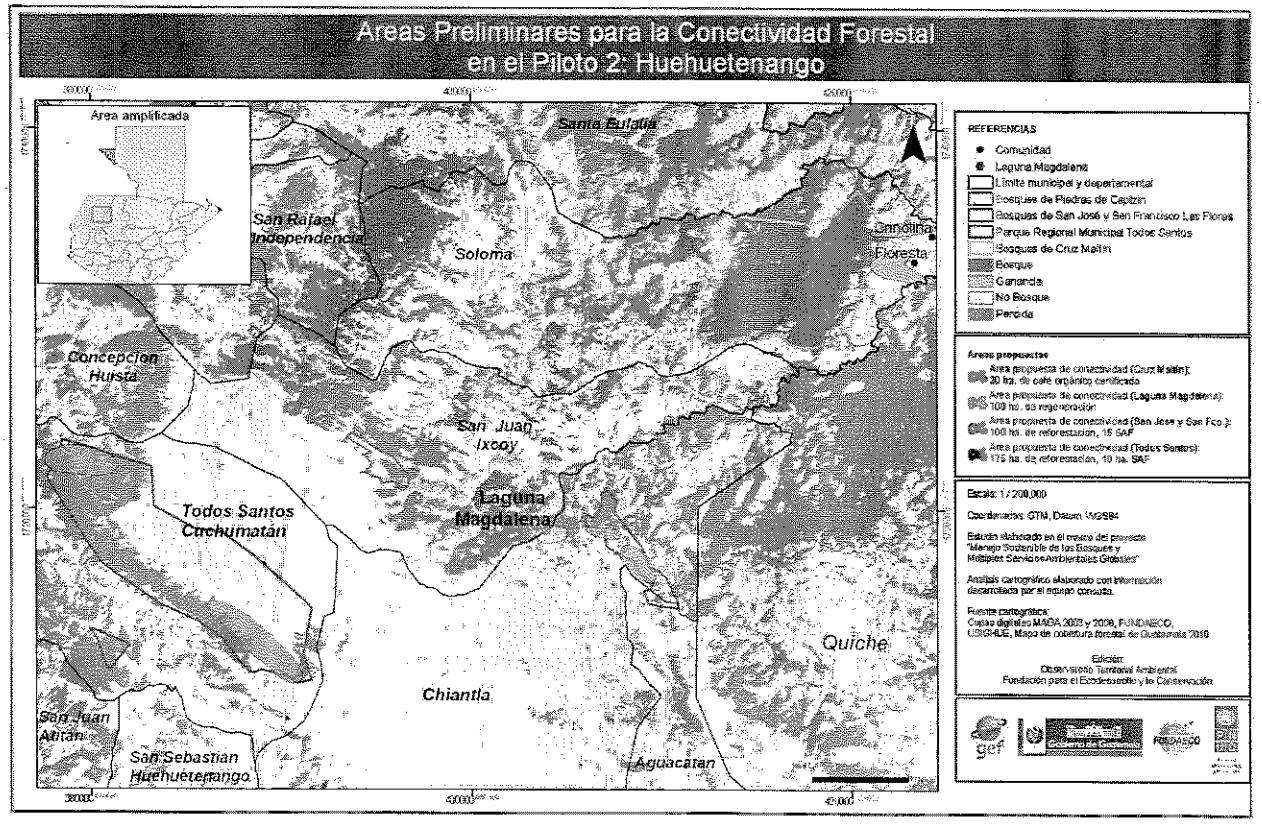


Figure 3 – Ecological connectivity between natural forest patches in the western region (department of Huehuetenango).

133. The biological corridor will include the reforestation of 275 ha in ecologically important areas, including 60 ha within communal lands located in the surroundings of the Piedras de Kab'tzin municipal forests. In addition, support will be given to the protection and conservation of the municipal forests of the municipality of San Juan Ixcoy, the municipal forests of Yaxcalamté in the municipality of Santa Eulalia, the Cerro Cruz Maltín forests, the Todos Santos Cuchumatán MRP forests, and the forests of Pepajau Magdalena (Asociación Asilvo Chancol, Asociación ICUZONDEHUE). The corridor will also include the establishment of 20 ha of organic/shade coffee, with species such as *Inga spp.* and citrus trees, in the community productive lands of La Floresta and La Crinolina in the vicinity of the Cruz Maltin forests. In addition, improvements to 40 sheepfolds will be made for the semi-confinement management of sheep, including the planting of 18 ha of oats to feed the sheep, in order to avoid the threat that they represent to the natural regeneration of forest in ecologically sensitive zones. The agroforestry systems will contribute to generating connectivity between the patches of forest and the Todos Santos Cuchumatán MRP, and between the Pepajau Magdalena forests located in the municipalities of Chiantla and San Juan Ixcoy, respectively. Using GIS analysis and verifications made in the field, FUNDAECO and the project team will monitor the forest coverage and agroforestry systems jointly with the municipalities and community representatives to verify the connectivity established.

134. An estimated 24,790 tCO_2-e will be sequestered as result of reforestation in ecologically important areas, and 889 tCO_2-e will be sequestered through sustainable agroforestry systems.

Output 2.6.2 – Four (4) BD/forest conservation agreements between the municipality and agriculture/cattle ranching associations facilitate implementing two incentives (PINFOR, PINPEP) in order to maintain the forest cover (13,843 ha) in an agriculture/cattle ranching production landscape, and ensures permanence of the project's benefits.

135. To ensure the permanence of project benefits related to BD and forest conservation, the project will promote the establishment of four conservation agreements between municipality authorities and local communities (agriculture/cattle ranching associations) to facilitate the implementation of PINFOR and PINPEP incentives. CONAP and FUNDAECO will take part in the agreements in order to facilitate the related activities and to contribute to the monitoring and verify compliance with the established agreements among the parties. These agreements will contribute to maintaining the forest cover in 13,843 ha. The four BD/forest conservation agreements are described as follows.

136. Agreement 1 – Conservation Agreement with the Communities of La Crinolina and La Floresta–Cerro Cruz Maltín: The communities involved will participate in the conservation of the Cruz Maltin forests, carrying out community patrols and halting the expansion of the agricultural while semi-technifying their coffee farms (include pruning, gradual renovation of old plants, shade management [40%], and application of organic fertilizers). The project will provide technical support for the establishment of organic/shade coffee farms.

Location: Municipality of san Pedro Soloma
Agreement: Local communities, municipality, CONAP, and FUNDAECO
Benefiting Communities: La Crinolina and La Floresta
Surface area of corridor and connectivity: 20 ha of certified organic/shade coffee contributes to the connectivity of 4,275 ha in Cerro Cruz Maltin.
Benefitting BD: Cloud forest frogs of the *Plectrohyla* and *Eleutherodactylus* genera, the lizards *Norops laeviventris* and *Sphenomorphus incertum*; the quetzal (*Phalomachrus moccino moccino*), the howler monkey (*Allouata sp.*), the white-tailed deer (*Odocoileus virginianus*) considered a threatened species in Guatemala, and the lowland paca (*Cuniculus paca*).

137. Agreement 2 – Conservation Agreement with the Community of Todos Santos Cuchumatán: The community involved will designate no-use zones for pasture and reduced stocking to allow forest regeneration and reforestation with support from PINFOR incentives, and will receive technical support for intensifying sheep production units through semi-confinement (improving sheepfolds and quality of food sources).

Location: Municipality of Todos Santos Cuchumatán
Agreement: Municipality of Todos Santos Cuchumatán, local communities, FUNDAECO, and CONAP
Benefiting Communities: Chichim, Buena Vista, Tuisoch, Chemal 1, Chemal 2, Tuicoy
Surface Area of Corridor: 185 ha (175 ha of reforestation through PINPEP and 10 ha agroforestry systems) contribute to generating connectivity with 2,823 ha in Todos Santos Cuchumatán MRP.
BD benefitting: Coniferous forests with a predominance of pine (*Pinus hartwegii*); the juniper, which is an endemic species (*Juniperus standleyii*); common cypress (*Cupressus lisitanica*), and the Guatemalan Fir (*Abies guatemalensis*), and species of broadleaf forests including oaks (*Quercus spp.),* canac (*Chiranthodendron pentadactylon*), and "aguacatillo" *(Nectandra spp*). Fauna: the tree frog *Plectrohyla matudai,* an endangered species, and the threatened snakes *Adelphicos veraepacis* and *Rhadinaea stadelmani*. Endemic species such as *Lampornis amethystinus* (Amethyst-throated Hummingbird), el *Empidonax affinis* (Pine Flycatcher), *Notiochelidon pileata* (Black-capped Swallow), *Myadestes occidentalis* (Western Fly-eater), *Carduelis atriceps* (Black-Capped Siskin), and *Ergaticus versicolor* (Pink-headed Warbler).

138. Agreement 3 – Finca San José and San Francisco Las Flores Communities Conservation Agreement: Local communities will actively participate in the implementation of the community forest conservation plan for the San José and San Francisco Las Flores Reserve, and will support the creation of connectivity through reforestation (PINPEP) and agroforestry systems. Local communities will receive support for the development and follow-up to the PINFOR incentive, and technical assistance.

Location: Municipality of Chiantla
Arrangement: Local communities, municipality, CONAP, ICUZONDEHUE, FUNDAECO
Benefiting communities: nine TBD
Area of corridor and connectivity: 115 ha (100 ha of reforestation through PINPEP incentives and 15 ha of agroforestry systems) contribute to creating connectivity with 6,245 ha of forest in Pepajau Magdalena.
BD benefiting: Coniferous forests, broadleaf and mixed forests, important endemic and threatened species, such as *Abies guatemalensis*, *Symphoricarpus guatemalensis* (local endemic), and *Symplocos Viteri (*local endemic). Fauna: Crow (*Corvus corax*) (threatened) and the tree frog (*Plectrohyla tecunumani*) (very rare endemic).

139. Agreement 4 – Conservation agreement for the natural regeneration of the Laguna Magdalena watershed: The communities will contribute to the restoration of forest cover and soils in the Laguna Magdalena watershed, designating areas for natural regeneration. The communities will receive support for the development and follow-up to the PINFOR incentive, and technical assistance.

Location: Municipality of Chiantla
Agreements: Communities, Chancol Asilvo, municipality, CONAP, FUNDAECO
Benefiting communities: local communities surrounding the Laguna Magdalena
Area of corridor: 100 ha regenerated through PINFOR incentive contribute to creating connectivity with

6,245 ha of forest in Pepajau Magdalena.
BD benefiting: Coniferous forests, broadleaf and mixed forests, important endemic and threatened species, such as *Abies guatemalensis*, *Symphoricarpus guatemalensis* (local endemic), and *Symplocos Viteri* (local endemic). Fauna: Crow (*Corvus corax*) (threatened) and the tree frog (*Plectrohyla tecunumani*) (very rare endemic).

140. The following activities will be performed to establish each of the agreements: a) meetings with the municipal and local authorities (i.e., COCODES) to discuss the terms of the agreements; b) drafting the agreement proposals and review of the proposal with local authorities (COCODES) (includes the work plan for implementation); c) follow-up of the approval in community assemblies; and d) signing of the agreement between the parties involved.

141. Follow-up and monitoring of the agreements will be done quarterly and progress reports on the implementation of the agreed-upon actions will be developed. In addition, inventories will be done of the BD present in the areas under the conservation agreements (biological corridor [Output 2.6.1], large forest patches located in the Todos Santos Cuchumatán MRP, municipal forests of Piedras de Kab'tzin, community forests of San José and San Francisco Las Flores, Cerro Cruz Maltin, and municipal forests of Cerro Yaxcalamté). In particular, the presence or absence of amphibian and plant species selected as BD status indicators (refer to the Project Framework, Section 3) will be determined at least twice during the project's implementation (mid-point and finalization). The indicator species are: a) Amphibians: *Plectrohyla tecunumani, Bolitoglossa nussbaumi, Pseudoeurycea rex, Plectrohyla hartwegi, Dendrotriton cuchumatanus, Plectrohyla hartwegi, Plectrohyla ixil*, and *Craugastor lineatus*; and b) Plants: *Pinus hartwegii, Pinus pseudostrobus, Pinus ayacahuite, Alnus jorulensis, Alnus firmifolia, Arbutus xalapensis, Cupressus lusitanica, Juniperus standleyi, Abies guatemalensis, Quercus* sp., and *Budleya nitida.*

Outcome 2.7 – Improvement by 10 percent in the capacity of municipal staff and community members as measured by capacity development indicators (baseline to be defined during the PPG phase): 15 municipal technical staff and 150 community members applying SFM, REDD+, and BD conservation practices.

Output 2.7.1 – Strengthened capacity of municipalities and community members in the western region for including SFM, REDD+, CC mitigation, and BD conservation tools in local development plans in order to contribute to the institutional sustainability of project outcomes.

142. The project will train 15 municipal technical staff and 150 community members of five prioritized municipalities in the department of Huehuetenango (western region) in SFM/REDD+, CC mitigation, and BD conservation practices, which will be instrumental for incorporating these topics into local development plans. This training will prepare technical staff in the municipalities and community leaders for the implementation of REDD+ activities in the region to reduce deforestation in one of the areas that presents one of the highest levels of BD in the country and threatened endemic species. In addition, they will receive training in the mitigation of CC through reforestation with native species and the promotion of natural regeneration in areas of high biological value that have been degraded. Training in conservation methods, such as the design and management of biological corridors, will contribute to the conservation of humid montane forests surrounding and within the three areas critical for conservation in the region: Cerro Cruz Maltín, Todos Santos Cuchumatán MRP, Pepajau Magdalena, and the Piedras de Kab'tzin municipal forests.

143. Training activities will be designed based on the training needs of local stakeholders and the capacity baseline established during the PPG through the use of capacity development indicators (UNDP Capacity Development Scorecard), which included a skills assessment of environmental staff from five municipalities (Santa Eulalia, Chiantla, San Pedro Soloma, San Juan Ixcoy, and Todos Santos Cuchumatán) and community leaders from four local organizations (ASOCUCH, ICUZONDEHUE, ASILVOCHANCOL, and ACODIHUE). The activities to be developed are the following: a) design a

training program that includes modules and training materials related to SFM/REDD+, CC mitigation, and BD conservation; b) conduct training sessions in the field that will benefit at least 15 municipal technical staff (forestry and/or environmental officers) and up to 150 community members; and c) evaluate the impact of the training through interviews, document review, and follow-up conducted in the field about what was learned and the application of the UNDP Capacity Development Scorecard (the scorecard will be applied twice more during the life of the project: at the mid-point and end of the project).

Output 2.7.2 – BD conservation criteria (ecosystem connectivity and PA buffers) and sustainable agriculture/cattle ranching practices incorporated into the development plans for five (5) municipalities.

144. The project will provide support to five municipalities in the western region (Santa Eulalia, Chiantla, San Pedro Soloma, San Juan Ixcoy, and Todos Santos Cuchumatán) so that they integrate the criteria for BD conservation into their development plans, with emphasis on ecosystem connectivity and BD conservation in buffer zones of existing PAs and conservation areas in the region (Cerro Cruz Maltín, Todos Santos Cuchumatán MRP and Pepajau Magdalena and the Piedras de Kab'tzin municipal forests), as well as criteria to promote sustainable agricultural and cattle ranching practices in landscapes with high biological value. To achieve this, the project will work with technical staff from the MFOs or MOEMs and the municipal authorities (COMUDES) with support from the MARN and CONAP, and will invite the COCODES and community leaders to participate in the process. FUNDAECO will provide technical assistance in consultation with CONAP's sub-regional office in the department of Huehuetenango, and will be responsible for developing all related activities in coordination with the project team.

145. The training that the municipal public authorities and the community representatives will receive through Output 2.7.1 will serve as the basis to facilitate their participation and the defining of the proposals for participatory conservation for the development plans. Activities for incorporating the criteria for BD conservation into the municipal development plans are the following: a) review performed jointly with the municipal authorities and community leaders of the current status of the development plans and the considerations for BD conservation that they include; b) development by the project team of proposals with criteria to promote connectivity, conservation of existing buffer areas in the PAs, and the development of sustainable agriculture and cattle ranching; c) workshops and meetings with the municipal authorities and community leaders to review the proposals, including technical criteria, social feasibility, budget required for implementation, financing mechanisms, and schedule; d) approval of the additions to the development plans by the municipal authorities and COCODES, and publication.

Output 2.7.3 – Five (5) municipal-level monitoring systems to assess SFM/REDD+ and BD benefits.

146. Monitoring systems to assess SFM/REDD+, CC, and BD benefits will be developed by the project in the municipalities of Santa Eulalia, Chiantla, San Pedro Soloma, San Juan Ixcoy, and Todos Santos Cuchumatán in the western region. The systems will be linked to each other and will include a key set of procedures and indicators for assessing SFM/REDD+, CC, and BD benefits for each municipality and for the region, including a 34,357-ha landscape where specific BD, CC, and SFM/REDD+ project activities will be implemented. Municipal-level monitoring systems will provide data to national MRV mechanisms that will be supported by the project (Outputs 1.2.1 and 1.2.3) and will be articulated with the municipal-level GIS mapping tool for assessing SFM benefits (Output 1.2.2). In addition, the municipal monitoring systems will be articulated with the monitoring and evaluation systems of the MARN (SIAP), CONAP (National Portal for Biological Diversity in Guatemala), INAB (National Forest Registry and PINPEP and PINFOR programs) and FUNDAECO, with the objective that the information that is generated will be available to other regional and national systems for measuring the results of improved C stocks, sustainable forest management, REDD+, and BD conservation. The indicators used for municipal-level monitoring systems will include those defined in the Strategic Results Framework (Component 2, Pilot Project 2) and those identified during the PPG phase for assessing project impact as well as BD variables, and will be included as part of the conservation agreements between municipality authorities and local communities that will be developed by the project (Output 2.6.2).

147. The development of the municipal-level monitoring systems will include the following activities: a) design and set up the monitoring systems following existing protocols for data-gathering (e.g., national protocol for the monitoring of C flows) and evaluate the current status of BD during the first year of the project; b) train MFO and MOEM staff in database management and reporting; b) conduct periodic information-gathering in selected landscapes of the prioritized municipalities; c) analyze information jointly with the project team, MARN, CONAP, MAGA, INAB, and FUNDAECO staff; and d) report the results to the various stakeholders, including the municipal authorities (COMUDES) and local communities (COCODES). FUNDAECO will work closely with the project team and staff from MARN, CONAP, MAGA, INAB, and the municipalities to guarantee that all monitoring protocols are followed and data systems are articulated so that information can be shared efficiently.

2.5. Key indicators, risks and assumptions

148. Project's indicators are provided in Table 6. Detailed information on project indicators is included in the Section 3: Results Framework of this Project Document. The risks that might prevent the project from being achieved are presented in Table 7.

Table 6 – Project indicators.

Objective / Component	Indicators	Goal (5 years)
Project Objective: To strengthen land/forest management processes and BD conservation in order to secure the flow of multiple ecosystems services while ensuring ecosystem resilience to climate change	Number of hectares of humid forest under the CCB Standards in the western region	– Change from zero to 13,843 ha
	Area (ha) (by forest type) under best management practices in LULUCF*, including monitoring of C stocks (CCM-5) *Conserve and enhance carbon stocks in selected forested areas.	– Dry forest: 1,500 ha – Humid forest: 13,343 ha
	Area (ha) rehabilitated* (by forest type) (CCM-5) *Reforestation with native species, natural regeneration, and sustainable agroforestry and silvopastoral systems.	– Dry forest: 3,000 ha – Humid forest: 547 ha
	Change in coverage (ha) and quality (rapid assessment method) of the forests in the dry areas (LD-2)	– Forest cover in the dry areas are maintained at 6,838.47 ha
	Avoided emissions (tCO_2-e) from deforestation by forest type during a 5-year period (SFM/REDD-1)	– Dry forest: change from zero (0) to 413,114 tCO_2-e – Humid forest: change from zero (0) to 468,360 tCO2-e
Component 1. Regulatory and institutional framework integrates principles of SFM and SLM, and strengthens integrated	National policies incorporate SLM and SFM considerations	– PROANDYS updated – Agricultural Policy of Guatemala reformed
	Number of national agencies working with inter-agency agreements that integrate principles of SFM and SLM	– Change from zero (0) to fiver (5): MARN, MAGA, INAB, CONAP, and ANAM

Objective / Component	Indicators	Goal (5 years)
environmental land management capacity	Change in capacity of national technical staff as measured by capacity development indicators	– INAB: change from 66.67%% to 76.67% – CONAP: change from 57.14% to 67.14% – MAGA: change from 76.92% to 86.92% – MARN: change from 61.54% to 71.54%
Component 2. Pilot projects for SFM and SLM reduce LD, improve C stocks, and enhance BD conservation in southeastern and western Guatemala	***Pilot 1**: SFM/REDD+ and SLM improve C stocks and reduce dry forest deforestation in a dry mountain landscape in southeastern Guatemala.*	
	tCO2-e sequestered through dry forest rehabilitation	– 116,848 tCO_2-e
	Number of ha protected through REDD+ practices during a 5-year period	– Change from zero (0) to 1,906 ha
	Revenue/gross contributions (USD) through reduction of emissions under REDD+ during a 5-year period.	– $619,672 USD (247,869 VCUs; Minimum price of US$2.50/VCU)
	Change in the capacity of municipal staff as measured by capacity development indicators	Municipalities (11 out of 15): – San Manuel Chaparrón: change from 15.38% to 25.38% – Jalapa: change from 33.33% to 43.33% – San Luis Jilotepeque: change from 51.28% to 61.28% – Mataquescuintla: change from 30.77% to 40.77% – Quesada: change from 35.71% to 45.71% – El Progreso: change from 25.64% to 35.64% – Santa Catarina Mita: change from 38.10% to 48.10% – Asunción Mita: change from 7.14% to 17.14% – Agua Blanca: change from 35.71% to 45.71% – San Rafael Las Flores: change from 30.77% to 40.77% – Casillas: change from 56.41% to 66.41%
	***Pilot 2**: SFM/REDD+ increases ecosystem connectivity and contributes to the conservation of BD in a humid montane landscape in western Guatemala.*	
	tCO2-e sequestered through humid montane forest rehabilitation	– 25,679 tCO_2
	Number of ha protected through REDD+ practices during a 5-year period	– Increase from zero (0) to 1,012 ha
	Revenue/gross contributions (USD) through reduction of emissions under REDD+ during a 5-year period	– $702,540 USD (281,016 VCUs; Minimum price of US$2.50/VCU)

Objective / Component	Indicators	Goal (5 years)
	Number of key species by biological groups (amphibians and plants) present in the project area	– Amphibians: 8 (*Plectrohyla tecunumani, Bolitoglossa nussbaumi, Pseudoeurycea rex, Plectrohyla hartwegi, Dendrotriton cuchumatanus; Plectrohyla hartwegi, Plectrohyla ixil, Craugastor lineatus*) – Plants: 11 *Pinus hartwegii, Pinus pseudostrobus, Pinus ayacahuite, Alnus jorulensis, Alnus firmifolia, Arbutus xalapensis, Cupressus lusitanica, Juniperus standleyi, Abies guatemalensis, Quercus sp., Budleya nitida*
	Change in the capacity of municipal staff and community members as measured by capacity development indicators	Municipalities: – Santa Eulalia: change from 33.33% to 43.33% – Chiantla: change from 50.00% to 60.00% – San Pedro Soloma: change from 33.33% to 43.33% – San Juan Ixcoy: change from 38.10% to 48.10% – Todos Santos Cuchumatán: change from 73.81% to 83.81% CSOs: – ASOCUCH: change from 64.10% to 74.10% – ICUZONDEHUE: change from 66.67% to 76.67% – ASILVOCHANCOL: change from 64.10% to 74.10% – ACODIHUE: change from 80.00% to 90.00%

Table 7 – Risks facing the project and the risk mitigation strategy.

Risk	Rate*	Risk mitigation strategy
1. Uncertainty of future project support from GoG officials	M	The project, with the support of the UNDP CO, will maintain the interest of government officials by keeping them informed about the project's development and outcomes making use of different resources (e.g., Steering Committee meetings, learning and knowledge sharing processes, and field visits). The strategy of project component 1 includes strengthening coordination mechanisms between the key government agencies (MARN, CONAP, INAB, MAGA, and ANAM) for environmental management, which will contribute to maintaining their support for the project. The project will also take advantage of the great interest in the project and long trajectory of FUNDAECO in the western region of Guatemala to promote SLM and SFM among local officials and communities in the department of Huehuetenango.
2. Limited government readiness for SFM/REDD+	M	The project will mitigate this risk by strengthening forest governance at the municipal level, including the development of appropriate regulatory frameworks and capacities for management and control. Additionally, the project will provide training on SFM and REDD+ methodologies and access to C markets will provide incentives for the adoption of SFM and the conservation and sustainable use of BD. Additionally, the project will closely coordinate actions with Guatemala's Readiness for REDD+ process (R-PP/FCPF/IADB) to implement activities that will improve SFM/REDD+ readiness.
3. Uncertainty	H	In order to reduce the risk related to the lack of clarity regarding property

Risk	Rate*	Risk mitigation strategy
regarding property and land use rights		rights and use of forest resources, the project will respect all existing forms and regulations that guarantee those rights, including the customary/traditional rights of the indigenous communities and rights of the local communities to use municipal and communal forests. In those cases where there is little clarity or conflict exists regarding property and use rights, the project will assume a conciliatory approach in order to arrive at the best solution possible for all parties without compromising the achievement of the project's outcomes. Reduction of this risk is particularly critical for achieving the REDD+ pilot project objectives; the project will have the support of an expert on community conflict prevention and resolution to reduce this risk. Legal support regarding rights of ownership over the reduction of GHG emissions in order to receive the pertinent benefits will be provided during an early phase of the REDD+ pilot project implementation to resolve possible conflicts about ownership rights over emissions reductions or the mechanisms to access performance-based payments, particularly in the case of a municipal jurisdictional program that would encompass territory with different situations of ownership and possession of the forests.
4. Forest damage and loss of forest cover due to the effects of CC	M	The risks related to CC may include very intense summers or torrential rains associated with tropical storms. This could cause deforestation, including changes in plant communities, land coverage due to landslides, and accelerated loss of soils. The project's activities for SFM/SLM will lead to more solid and increased forest coverage as well as healthier forests (e.g., diversity of age groups and increased strength for regeneration) that will make them more resistant to CC. In addition, there will be increased protection of the soils and regulation of hydric cycles that will generate stable microclimatic conditions with benefits for their associated species and forests, as well as a reduction of vulnerability of the human populations to CC. The project will also promote connectivity among forest blocks and conservation areas in the department of Huehuetenango, enhancing BD resilience to CC by increasing species' mobility and providing them with refuge from temperature changes.
5. Lack of engagement /involvement of local stakeholders, including land users	L	The Guatemalan legislation (Congress Decree 11-2002 Law for Development Councils, which was passed after the Peace Accords of 1996 that ended a 36-year civil war) requires the participation of local stakeholders in all land use planning processes. The project will ensure that the Municipal Development Councils (MDCs), which represent the indigenous and non-indigenous populations and the private sector, participate and contribute to local planning processes to be promoted by the project. Additionally, the project will bring multiple benefits to local stakeholders including economic incentives for SFM, technical assistance for sustainable agriculture production, efficient use of firewood, and capacity development, among other benefits, that will motivate them to participate in the project. Finally, the project has designed a stakeholder participation plan through which local stakeholders will be engaged in multiple phase of project execution, including planning, implementation of specific project activities, and monitoring and evaluation.
6. PIC is not granted by local stakeholders	L	As expressed in Agreement 169 of the International Labor Organization (ILO), the principle of "free, prior, and informed consent" (FPIC) applies in cases where indigenous territories will be affected by an intervention. All project activities that involve indigenous territories will be developed based on the principles of FPIC and in accordance with the conventions of which

Risk	Rate*	Risk mitigation strategy
		Guatemala is a signatory (Guatemala ratified the ILO in 1996), and with the national laws regarding indigenous peoples' and local communities' participation (e.g., Municipal Code). Additionally, the project will follow all related considerations to be included in the REDD+ National Strategy that is to be developed by the GoG, and which are currently outlined in the R-PP. To obtain the FPIC, the project will build on the local consultations that were developed during the PPG phase, particularly in the department of Huehuetenango where most of the population is indigenous, and will rely on FUNDAECO and INAB, who have long working relationships with the local communities.
7. Uncertainty regarding the continuation of the PINFOR beyond 2016	M	PINFOR is a tool of the National Forest Policy that began operating in 1997 and is valid until 2016. The Board of the INAB is currently drafting a legal proposal for the continuation of the PINFOR beyond 2016. This proposal is expected to be submitted to the Guatemalan Congress for consideration in late 2013. Since the project will be working closely with the INAB, a follow-up of this process will be possible. The project will give priority to the submittal of proposals to the PINFOR during its first two years of implementation to access the related incentives before 2016. In the event that the PINFOR is not extended, the project will continue working with the PINPEP incentive, which will not expire.

* H: High; M: Medium; L: Low

2.6. Financial modality

149. The financial support provided by GEF resources will consist of a grant to cover the incremental costs of these activities. Therefore, GEF resources will be mainly directed toward technical assistance.

150. The project will be executed under DIM according to the standards and regulations for UNDP cooperation in Guatemala and in close coordination with the MARN. The costs of the incremental activities that are required to contribute to global benefits that will be financed by GEF are $4,400,000. A summary of the project's budget is presented in Table 8.

Table 8 – Total project budget.

Outcome	Budget	Percentage of total budget
Outcome 1. Regulatory and institutional framework integrates principles of SFM and SLM, and strengthens integrated environmental land management capacity	534,000	12.1
Outcome 2. Pilot projects for SFM and SLM reduce land degradation, improve C stocks, and enhance BD conservation in southeastern and western Guatemala	3,579,720	81.4
Project management costs	286,280	6.5
TOTAL	**4,400,000**	**100.0**

2.7. Cost-effectiveness

151. A strategy to counter natural dry and humid montane forest loss in production landscapes by piloting SFM/REDD+ and SLM models and BD conservation actions that will increase ecosystem

connectivity in southeastern and western and Guatemala, supported by a strengthened regulatory and institutional framework, is likely to be far more cost-effective in the short and long term than the alternative approach, in which dispersed and uncoordinated efforts limited by the insufficient availability of planning, management, and monitoring tools and weak institutional capacities will prevail. By strengthening national and local institutions in the use of SFM/REDD+, LD, C sequestration, and BD conservation tools, within a framework of effective institutional coordination backed by interinstitutional cooperation agreements, mechanisms that promote effective stakeholder involvement, and improved institutional capacities, the GEF alternative will allow the removal of the barriers that currently prevent Guatemala from implementing effective land/forest management and BD conservation strategies in the southeastern and western regions of Guatemala in order to secure the flow of multiple ecosystems services.

152. Cost-effectiveness will be promoted by working with and through existing institutions that already have organizational and logistical capacities established at local levels, thereby limiting the level of effort (time and resources) that the project will need to make in such capacities. Guatemala has significant background and experience in the implementation of forestry incentives. Through PINPEP and PINFOR, which are administrated by INAB, the country has developed a legal and operational framework that directly benefits the local communities that promote reforestation, natural regeneration, agroforestry, and forest management for production and conservation. The project will promote PINPEP and PINFOR investments as part of the strategy designed for the REDD+ pilot projects so that these incentives are effectively used in areas with the highest threat of deforestation or in areas with high rates of C sequestration to maximize their impact, while reducing costs by using INAB's well-established operational procedures. REDD+ pilot projects will use principles, methodologies, and priorities outlined in the R-PP and the National REDD+ Strategy that Guatemala will be developing in the upcoming years to ensure that the project makes significant contributions to processes already underway and by avoiding duplication and dispersion of efforts, a strategy that will undoubtedly optimize the use of available resources.

153. CC project benefits are cost-effective. Over a 10-year period (the most conservative life span adopted by voluntary markets for this type of project), the project's total investment of $11,102,404 USD (CCM and SFM/REDD+ funds only) will result in an increase in C stocks and avoided emissions equal to 2,270,015 tCO_2, for a unit cost of $4.89 USD/$tCO_2$-e. This is much lower than the IPCC-recognized ceiling of $20 USD/$tCO_2$-e for low-cost technologies.

154. The return on investment will also include avoided deforestation of 4,290.68 ha of dry forest and 2,588 ha of humid montane forest over a 10-year period, which will have been lost under the alternative scenario that does not include the implementation of effective mechanisms to reduce deforestation. Similarly, the alternative scenario to reduce LD and prevent desertification in the southeastern region does not consider in the short term effective planning for SFM and SLM. The GEF alternative, through the development of SFM/SLM plans, will allow for two watersheds and the incorporation of SFM/SLM principles in up to 15 municipal development plans, thereby reducing pressure on dry forest ecosystems and generating sustainable flows of dry forest ecosystem services, including enhancement of C stocks, improved soils and hydrological capacity, increased productivity and the livelihoods of the rural and urban communities in the region, and quality habitat for BD.

2.8. Sustainability

Ecological sustainability

155. The ecological sustainability of the project's outputs will be achieved through the implementation of actions that will enable the recuperation of forest cover in the two pilot regions through planning for SFM and SLM in key landscapes, reforestation, natural regeneration, and implementation of sustainable agroforestry systems. This will allow the protection and restoration of secondary forests and/or degraded forests in the project's prioritized areas (i.e., pilot areas) as well as reduced pressure on dry and humid

forests in the southeast and western regions of Guatemala. In addition, sustainable agroforestry systems in degraded forest lands will contribute to stabilizing the soils promoting ecological sustainability. These activities will contribute to climate regulation, the protection of areas of hydrological catchment and regulation, the protection of water sources, and improvement of the nutrient recycling processes for the stability of the dry and humid forest ecosystems.

156. The establishment of long-term conservation agreements between environmental officials and local communities in the western region (Pilot Region 2) will contribute to conservation of BD and forests, the protection of key habitat, the establishment of connectivity between existing protected areas and forest patches in the surrounding landscapes, and sustainable agriculture and BMPs for cattle ranching. This includes the creation of horizontal and vertical biological corridors, which will benefit vulnerable and/or endangered species as well as endemic species. Finally, the REDD+ pilot projects will reduce deforestation in the two pilot sites. Given that the effective implementation of the REDD+ pilot projects are projected for 30 years, they will contribute to avoided deforestation in the prioritized dry and humid forest regions beyond the life of the project.

157. Together, these actions will contribute incrementally generate long-term local and global environmental benefits through actions for the mitigation of CC, BD conservation, and the sustainable management of forests and soils.

Social sustainability

158. The social sustainability of the project will be achieved mainly through the direct participation of the local communities and local governments in the planning and implementation of SLM, SFM, and BD conservation activities, as well as through the long-lasting direct and indirect economic benefits that will result from them. These include, but are not limited to, social and economic benefits derived from the adoption of energy-efficient stoves that will facilitate the cooking of food while reducing firewood consumption and GHG emissions, the implementation of sustainable agroforestry that will contribute to food security and revenue generation while improving C stocks and ecosystem connectivity, and improved access to economic incentives to maintain and improve forest cover through programs such as PINFOR and PINPEP.

159. The implementation of the policy instruments for SFM, SLM and CC mitigation activities will increase participation of the local population in both prioritized regions, will encourage ownership and empowerment of the communities and local governments of the systems established for SFM and for the recuperation of degraded lands, and will increase forest cover and sustainable agroforestry. This will contribute to the creation of a sustainable supply of environmental goods and services that will benefit the local communities and governments, helping to guarantee their long-term commitment to SFM and SLM.

160. In addition, through the four (4) conservation agreements in Pilot Region 2, the participation of the local authorities (municipalities) and local communities will be strengthened, improving communication and coordination between them, which will reinforce long-term cooperative relationships. Activities implemented under the REDD+ pilot projects will be designed with regard given to the REDD+ safeguards that Guatemala will define in the coming years. In addition, PDDs will be developed following the CCB Standards that are founded on the principles of FPIC, among others. In accordance with this, the REDD+ pilot projects will have a solid basis for their social sustainability from their inception. In addition, the activities that will be implemented through the REDD+ pilot projects to reduce deforestation will promote the sustainability of productive systems, the implementation of BD and forest conservation agreements that directly benefit the communities and the leveraging of PINFOR and PINPEP incentives, which have widely social recognition in Guatemala.

161. Overall, the project will be socially sustainability in both of the prioritized regions since it will improve the quality of life of the populations in the medium and long term.

Institutional sustainability

162. The institutional sustainability at the national level will be endured through the establishment of a long-term interagency agreement for cooperation between the MARN, CONAP, INAB, MAGA, and ANAM, enabling the inclusion of SFM/SLM principles in forestry and agricultural policies, and facilitating the harmonization of national and local norms related to land use. Since these agencies are the main agencies responsible at the national level regarding land use planning and forest management, the project's contribution to the development of a mechanism for effective collaboration and coordination will bear an impact far beyond completion of the project.

163. At the local level, institutional sustainability will be ensured through increased knowledge by the local stakeholders regarding SLM, SFM/REDD+, CC mitigation, and BD conservation. Increased knowledge and skills will facilitate monitoring actions that are implemented and their complementarity with future initiatives. In addition, the project will strengthen local institutional capacity through actions planned for sustainable use of the soil and forests in two watersheds (Pilot Region 1) and incorporation of the SFM and SLM principles into the development plans of the participating municipalities (15 in the southeastern region and five in the western region). These will serve as key instruments for mid-term land use planning and decision-making locally. Additionally, local institutional capacity will also be increased through expanding the implementation of forestry and agroforestry projects through PINFOR and PINPEP, which are well established government programs. The project will also strengthen the capacity of local institutions and CSOs to effectively coordinate with regional and national government agencies the implementation of activities for the forest management and protection, restoration and recuperation of degraded soils, and BD conservation. In this respect, the municipal environmental/forestry offices will play a strategic role by facilitating and supporting activities for the development local, municipal, and/or sub-national environment and forest-based projects. Regarding the municipal environmental/forestry offices, the project will generate increased knowledge among officials of these offices and will contribute to the strengthening of four environmental/forestry municipal offices in the southeastern region by fully equipping them with staff skilled in the control of forest fires, and enhanced conservation of BD and C sequestration.

164. The REDD+ pilot projects will require a lead technical team, legal agreements, and an organizational structure that will enable them to continue to promote forest conservation actions in the field and to measure, report, and verify emissions reductions in regular time intervals (at least every 2 years) beyond the life of the project. A PMU will be established for this purpose in each REDD+ pilot project and, at the end of 5 years of necessary training and capacity-building in the procedures for implementing REDD+ project, they will be equipped to implement a REDD+ project in the longer term (30 years according to the current VCS requirements).

Financial sustainability

165. Financial sustainability will be achieved through series of related activities. By strengthening the mechanism for interagency cooperation between MARN, CONAP, INAB, MAGA, and ANAM, and strengthening the capacity of government officials and field staff (foresters, PA managers, and agricultural extension officers) these agencies will be better positioned to developed joint proposals for the implementation of SFM and SLM as well as for their financial planning and management. Similarly, skills developed at the municipal and community levels will facilitate the adoption of SFM and SLM at the local level. More specifically, sustainable use plans for soil and forests in two watersheds (Pilot Region 1) and the incorporation of SFM and SLM principles into the participating municipalities' development plans will incorporate financing strategies that will enable the sustainability of the actions developed by the project at the local level in the medium and long term, as well as the activities contained within the plans.

166. The BD/forest conservation agreements between the municipality and agriculture/cattle ranching associations have been designed to facilitate implementing two incentives (PINFOR and PINPEP) that will allow maintaining the forest cover in an agriculture/cattle ranching production landscape of the project's prioritized western region. Both PINPEP and PINFOR have proven to be successful forest-

related financial mechanisms develop by the GoG through INAB and have been operating for more than 10 years. The PINPEP will continue operating beyond the project's timeframe while the PINFOR will end in 2016; a decision regarding its continuation is pending. Similarly, local actions to be developed by the project in the southeastern region (reforestation, natural regeneration, and sustainable agroforestry) will be financed through PINFOR and PINPEP, which will ensure the permanence of the project's benefits.

167. With regard to the two REDD+ pilot projects, the first verification of the reduction of emissions resulting from the project activities will be performed during the last year of the project. It is anticipated that approximately 413,144 tons of CO_2-e emissions will have been avoided during the 5 years of the project's life through the implementation of the AUD-VCS project in the dry forest region of the southeastern part of the country (Pilot Region 1), and approximately 468,360 tons of CO_2-e in the humid region in the western part of the country (Pilot Region 2). During the minimum lifetime of these two pilot projects (30 years, according to the current VCS requirements), Pilot Project 1 could generate an emissions reduction of 1,871,905 tons of CO2-e, and approximately 3,759,466 tons of CO2-e through Pilot Project 2. Considering the specific rules of the VCS in relation to non-permanent buffers, just a part of the emissions reduction could be sold as carbon credit (VCS). Assuming a price between USD $2.00 and $4.00 per VCU, Pilot Project 1 could obtain between $495,738 and $991,476 USD during year 5 of the project to finance its activities until the next verification (one verification every 2 years is projected). Under the same price assumption, Pilot Project 2 would obtain between $562,032 and $1,124,064 USD. This way the PMUs that will be created as part of the project's activities will have resources to continue operating after year 5 and during the lifetime of the REDD+ pilot projects, thereby ensuring their sustainability.

2.9. Replicability

168. The strengthening of land/forest management processes, biodiversity conservation, and enhancement of C stocks in the southeastern and western regions of Guatemala will have an impact on various levels. At the local level, the SFM/SLM plans for the upper and middle sections of two (2) watersheds associated with dry forests and the Ayarza Lagoon will have the potential to be replicated in other watersheds with the southern region not covered by the GEF alternative. Similarly, the incorporation of SFM/REDD+ and SLM principles (and their implementing measures) into the development plans for 15 municipalities that will have the potential to be replicated in up to 38 municipalities of departments of Jalapa, Jutiapa, and Santa Rosa, as well as to three other departments (Zacapa, Chiquimula, and El Progreso) that are part of the in the dry corridor of Guatemala, which includes areas in the southeastern region with extremely high, very high, and high threat of drought. In the western region, BD conservation criteria (ecosystem connectivity and PA buffers) and sustainable agriculture/cattle ranching practices will be incorporated into the development plans for five municipalities with the potential of expanding similar efforts to up to 32 municipalities in the department of Huehuetenango and contributing to the conservation of BD and the montane humid forests and lowland tropical forests of one of the most biologically rich regions of the country.

169. At the national level, the national institutions (e.g., SEGEPLAN, INAB, CONAP, MARN, and MAGA) will benefit from the project through the development of capacities for planning, follow-up, and monitoring of SLF, SFM, CC, and BD initiatives, which will facilitate the replicability of similar efforts in other regions in Guatemala. In particular, the development of a regional-level GIS mapping tool will facilitate the incorporation of SFM/SLM and BD conservation into municipal development plans throughout the country, using as a guide the lessons learned and experience gained through the development of such plans in the municipalities prioritized by the project in the southeastern and western regions. In addition, the development of SFM/REDD+ projects is potentially replicable in the entire country of Guatemala. Once the principles of sustainable forest management and REDD+ are incorporated into municipal development plans, and once the municipal forestry/environmental offices are strengthened and with collaboration from the municipal offices with national institutions such as

SEGEPLAN, INAB, CONAB, MARN, and MAGA and the local organizations, REDD+ projects may be implemented based on improved local governance and municipal forestry. Once deforestation has been reduced, the successful REDD+ projects will generate additional economic resources that will make feasible the continuation of the REDD+ projects, and will also provide incentive for replication in municipalities or groups of municipalities that still have not developed REDD+ initiatives. Two elements that are central to the sustainability and replicability of the REDD+ projects at the municipal level are: a) the necessity for organization and collaboration between various municipalities to join a sufficiently sized area of land for achieving desired goals for avoided deforestation, and obtaining the financial resources needed to develop a REDD+ project, and b) the importance of creating PMUs that are fully capacitated, outfitted, and financed so that through them the municipalities can maintain and replicate their REDD+ projects. The project will make important contributions with respect to creating lessons learned that will facilitate the replication of similar initiatives in other municipalities in the country.

170. The project also has the potential to be replicated and provide lessons learned at the international level. Similar efforts to implement SFM and SLM strategies and for BD conservation and the mitigation of CC are currently underway or are planned in several countries in the Latin America and the Caribbean region (e.g., Colombia, Nicaragua, and Honduras). In particular, the implementation of SFM/REDD+ and SLM activities in dry lands constitutes an example to follow in the region and worldwide.

171. Lessons learned from this GEF initiative will provide useful information and experience for the implementation of similar initiatives. The project will make use of the tools made available by UNDP-GEF (i.e., information networks, forums, and documentation and publications) for their dissemination. Project costs for disseminating knowledge and lessons learned are $7,250 USD (an average of $1,450 per year) and have been properly budgeted as part of the project's monitoring and evaluation (M&E) plan.

3. STRATEGIC RESULTS FRAMEWORK AND GEF INCREMENT

3.1. Incremental Cost Analysis

Global and National objectives

172. The project will contribute to implementing SFM/REDD+ and SLM, as well to the conservation of BD and the enhancement of C stocks in two forested landscapes in southeastern and western Guatemala. The global and national environmental benefits to be delivered through the project are:

Pilot 1: 1. C sequestration: 116,849 tCO_2-e over five years, 20,127 tCO_2-e of which will be sequestered through sustainable agroforestry systems, making use of organic inputs and reduced use of agrochemicals; and 2,178 tCO_2-e from sustainable soil management. 2. Avoided emissions: 413,114 tCO_2-e over five years (Avoided deforestation: 1,906 ha). 3. Two integrated land management plans: SFM/SLM plans for the Ayarza Lagoon watershed (3,112.45 ha) and the upper and mid-sections (30,729.6 ha and 52,239 ha, respectively) of the Ostúa River watershed.
Pilot 2: 1. Improved forest cover in a13,843-ha humid forest landscape. 2. C sequestration: 25,679 tCO_2-e. 3. Avoided emissions: 468,360 tCO_2-e over five years (Avoided deforestation: 1,012 ha). 4. Improved habitat for BD: - Number of species of biological groups (plants and amphibians) remains stable in a forest/agricultural production landscapes. Species include: Amphibians (8 species): *Plectrohyla tecunumani, Bolitoglossa nussbaumi, Pseudoeurycea rex, Plectrohyla hartwegi, Dendrotriton cuchumatanus, Plectrohyla hartwegi, Plectrohyla ixil, Craugastor lineatus*; Plants (11 species): *Pinus hartwegii, Pinus pseudostrobus, Pinus ayacahuite, Alnus jorulensis, Alnus firmifolia, Arbutus xalapensis, Cupressus lusitanica, Juniperus standleyi, Abies guatemalensis, Quercus sp., Budleya nítida* - A 420-ha biological corridor provides connectivity between forest remnants and contributes to the conservation of biologically important areas: Todos Santos Cuchumatán MRP, municipal forests of Piedras de Kab'tzin, community forests of San José and San Francisco las Flores, Cerro Cruz Maltín, and municipal

forests of Cerro Yaxcalamté. Together these areas cover approximately 13,843 ha of humid forests, including low mountain forests of pine and oak and humid mountain forests.

- Other BD of global importance benefiting include the horned guan (*Oreophasis derbianus*), the Highland Guan (*Penelopina nigra*), the quetzal (*Pharomachrus mocinno*), the warbler (*Ergaticus versicolor*), the puma (*Puma concolor*), the deer (*Mazama temama*), the coyote (*Canis latrans*), and the fox (*Urocyon cinereoargenteus*).

Baseline Scenario

173. Although under the "business as usual" scenario important programs will be developed, these programs alone will not overcome the barriers that currently prevent implementation of land and forest management and BD conservation practices in the southeastern and western regions of Guatemala that will secure the flow of multiple ecosystems services, at the same time ensuring ecosystem resilience to CC. The baseline programs are divided into two areas, which are in line with the project's two outcomes. These two areas of work are described below and include investments made during 2012, as well as investments that are planned for the 2013-2017 time period.

174. **Regulatory and institutional framework for SFM and SLM.** Existing and planned investments for baseline programs and activities for the 2012-2017 time period are estimated at **$1,583,000** USD. Baseline activities include investment in Guatemala's REDD+ Readiness program under the leadership of the MARN, with funding from the FCPF and the IADB serving as the delivery partner. These funds will be used to develop aspects related to three of the R-PP components: a) organization and consultation (Component 1); b) development of a reference level for the assessment of emission reduction targets (Component 3); and c) design of a monitoring system to assess emissions and removals (Component 4).

175. **Pilot projects for SFM and SLM, CC mitigation, and BD conservation.** Existing and planned investments for baseline programs and activities for the 2012-2017 time period are estimated at **$3,957,501.50** USD. Investments through the INAB-managed PINPEP and PINFOR programs for reforestation, management of natural regeneration, management of forests used in productive practices, and agroforestry in Guatemala's southeastern and western region will total $1,523,880 USD. Additionally, INAB will invest $63,000 USD in the administration of the PINPEP and PINFOR in these regions. Baseline investment in the southeastern region will also include $40,000 USD from CALMECAC to raise awareness and conduct training among local communities to access PINPEP and PINFOR incentives for SFM. The MAGA will fund training and implement BMPs for agricultural and cattle ranching activities with a total of $536,250 USD, also contributing to the prevention of LD. Municipalities will invest $488,125 USD to finance MFOs and MOEMs to promote SFM, the control of forest fires, the control of firewood use, and to prevent illegal logging.

176. In the western region, CONAP will invest $25,905 USD in the management of the Todos Santos Cuchumatán MRP and its buffer zone. FUNDAECO will make investments totaling $50,191 USD for strengthening the participation of local and indigenous communities in the management of conservation areas (Todos Santos Cuchumatán MRP, Cruz Maltín, Valle de Quisil, Piedras de Kab'tzin, and Finca San José and San Francisco Las Flores) that are important for BD, including unique mountain ecosystems and endemic and endangered species. ACODIHUE will invest $59,367 USD in the restoration of the Ocho River microwatershed in the department of Huehuetenango (including the municipality of Todos Santos Cuchumatán), contributing to BD conservation and the sustainable use of forest resources. ASOCUCH will make two investments for the protection and sustainable management of natural resources in the Sierra de los Cuchumatanes (department of Huehuetenango). The first investment of $500,000 USD will be a joint venture with the MAGA and the Center of International Cooperation for Agricultural Pre-investment (CIPREDA) that will contribute to water and soil conservation through the implementation of BMPs. The second investment of $316,455 USD will also contribute to water and soil conservation through implementation of BMPs with funding from the FCA's small grants program. An additional investment of $25,316 USD from ASOCUCH will contribute to the development of a CC adaptation plan

that will benefit local communities in the Pepajau microwatershed in the municipality of San Juan Ixcoy, with funding from the Norwegian Development Fund (NDF). As part of its Food for Actions Program, the MAGA will invest $173,700 USD in implementation of BMPs for soil conservation and SFM. Municipalities will make investments of $155,312.50 USD to finance MFOs and MOEMs to promote SFM, the control of forest fires, the control of firewood use, and to prevent illegal logging.

GEF Alternative to Generate Global Benefits

177. Despite the important contribution these existing and planned baseline programs and projects make, they will not be sufficient for strengthening land and forest management processes and BD conservation to secure the flow of multiple ecosystems services, at the same time ensuring ecosystem resilience to CC in southeastern and western Guatemala. A GEF **alternative scenario** will help to remove the barriers that prevent Guatemala from achieving a regulatory and institutional framework that integrates the principles of SFM and SLM and strengthened integrated environmental land management capacity.The proposed GEF intervention to achieve this objective consists of two interrelated components that will contribute to reduce deforestation, prevent LD, improve BD conservation, and enhance C stocks of dry and humid mountain forests. A description of the benefits of the GEF alternative scenario follows.

178. The alternative GEF scenario will **integrate principles of SFM and SLM into the regulatory and institutional framework and will strengthen integrated environmental land management capacity.** Incremental financing will be in the amount of **$2,347,285.77** USD; **$534,000** USD will be provided by the GEF and **$1,813,285.77** USD will be provided by co-financing sources. Co-financing for this project component will be provided by UNDP ($501,642.90 USD), KfW ($810,000.00 USD), and MARN ($501,642.87 USD).

179. In addition, the GEF alternative will develop **pilot projects for SFM and SLM, reduce LD, improve C stocks, and enhance BD conservation in southeastern and western Guatemala.** The incremental financing expected for this outcome is **$14,112,095.30** USD; **$3,579,720.00** USD will be provided by the GEF and **$10,532,375.30** USD will be provided by co-financing sources. The GEF alternative will include an investment from the KfW of $9,882,000.00 USD, which will be used to promote SFM and SLM in the dry landscapes of southeastern Guatemala. It also includes an investment of $283,729.50 USD from CALMECAC to support the conservation of native species of dry ecosystems in the department of Jutiapa; and promote the sustainable management of natural resources, including water and soils, in Jutiapa and Jalapa, with the participation of local communities and organizations. FUNDAECO will contribute $315,324.90 USD, which will be part of the investments planned for promoting ecosystem connectivity, BD conservation, and the enhancement of C stocks in a humid mountain landscape in western Guatemala. Finally, investments from the municipalities of Santa Eulalia, Todos Santos Cuchumatán, and San Juan Ixcoy will be part of the GEF alternative to implement SFM/REDD+ activities to increase ecosystem connectivity and BD conservation in western Guatemala. Their contribution to the project will be $11,088, $18,571.50, and $21,661.40 USD, respectively.

180. System Boundary: The GEF alternative will allow the development of a legal, planning, and institutional framework for integrating SFM/REDD+ and SLM principles into national environmental and development policies. In addition, it will strengthen the capacity of national-level agencies such as MARN, INAB, MAGA, and CONAP for integrated environmental land management; these actions will have an impact across the country. Two pilot projects for SFM/REDD+ and SLM will reduce LD, improve C stocks, and enhance BD conservation. This will deliver global, national, and local environmental benefits in a 17,456-ha dry mountain landscape in southeastern Guatemala and in a 34,357-ha humid mountain landscape in western Guatemala.

181. Incremental costs summary: The incremental cost matrix presented below summarizes baseline costs and incremental activity costs for each project outcome. The total baseline amounts to **$5,540,501.50** USD. The costs of the incremental activities required to contribute to global benefits include **$4,400,000** USD to be funded by the GEF and **$13,717,401.18** USD to be provided by co-financers, for a total of

$18,117,401.18 USD. All project co-financers have stated their commitment to the project through written signed letters.

182. In summary, the GEF Alternative has a total cost of **$23,657,902.68** USD, 18.6% of which will be provided by GEF (excluding PPG resources). A summary of the GEF Alternative follows.

COMPONENT	BASELINE (A)		ALTERNATIVE (A+B)		INCREMENT (B)	
Component 1: Regulatory and institutional framework integrates principles of SFM and SLM, and strengthens integrated environmental land management capacity.	MARN/IADB: REDD+ Readiness process	1,583,000.00	GEF	534,000.00	GEF	534,000.00
			Co-financing	1,813,285.77	Co-financing	1,813,285.77
			UNDP	501,642.90		
			German Development Bank (KfW)	810,000.00		
			MARN	501,642.87		
			Baseline	1,583,000.00		
	Subtotal baseline	**1,583,000.00**	**Subtotal alternative**	**3,930,285.77**	**Subtotal increment**	**2,347,285.77**
Component 2: Pilot projects for SFM and SLM reduce land degradation, improve C stocks, and enhance BD conservation in southeastern and western Guatemala	CONAP	25,905.00	GEF	3,579,720.00	GEF	3,579,720.00
	FUNDAECO	50,191.00	Co-financing	10,532,375.30	Co-financing	10,532,375.30
	INAB: PINPEP/PINFOR - Direct Investments	1,523,880.00	German Development Bank (KfW)	9,882,000.00		
	INAB: PINPEP/PINFOR - Management	63,000.00	Municipality of Santa Eulalia	11,088.00		
	ACODIHUE	59,367.00	Municipality of Todos Santos Cuchumatán	18,571.50		
	ASOCUCH	316,455.00	Municipality of San Juan Ixcoy	21,661.40		
	ASOCUCH/MAGA/CIP REDA	500,000.00	FUNDAECO	315,324.90		
	ASOCUCH/NDF	25,316.00	CALMECAC	283,729.50		
	MAGA: SNER	536,250.00				
	MAGA	173,700.00				
	Municipalities (11) in the southeastern region	488,125.00				
	Municipalities (5) in the western region	155,312.50				
	CALMECAC	40,000.00				

			Baseline	3,957,501.50		
	Subtotal baseline	**3,957,501.50**	**Subtotal alternative**	**18,069,596.80**	**Subtotal increment**	**14,112,095.30**
PROJECT MANAGEMENT	NA		GEF	286,280.00	GEF	286,280.00
			Co-financing	1,371,740.11	Co-financing	1,371,740.11
			UNDP	55,738.10		
			German Development Bank (KfW)	1,188,000.00		
			MARN	55,738.09		
			Municipality of Santa Eulalia	1,232.00		
			Municipality of Todos Santos Cuchumatán	2,063.50		
			Municipality of San Juan Ixcoy	2,406.82		
			FUNDAECO	35,036.10		
			CALMECAC	31,525.50		
			Baseline	0.00		
	Subtotal baseline	**0.00**	**Subtotal alternative**	**1,658,020.11**	**Subtotal increment**	**1,658,020.11**
TOTAL			Total GEF	4,400,000.00	Total GEF	4,400,000.00
			Total Co-financing	13,717,401.18	Total Co-financing	13,717,401.18
			Total Baseline	5,540,501.50		
	TOTAL BASELINE	**5,540,501.50**	**TOTAL ALTERNATIVE**	**23,657,902.68**	**TOTAL INCREMENT**	**18,117,401.18**

3.2. Project Results Framework

Project Strategy	Objectively Verifiable Indicators				
	Indicator	**Baseline**	**Goal (of the Indicator)**	**Verification Mechanisms**	**Risks and Assumptions**
Project Objective: To strengthen land/forest management processes and biodiversity conservation in order to secure the flow of multiple ecosystems services while ensuring ecosystem resilience to climate change.	Number of hectares (ha) of humid forest under the CCB Standards in the western region (BD-2)	– 0	– 13,843 ha	– CCB Standards – Landscape management plans – Project evaluation reports: PIR/APR, mid-term and final evaluations – GIS/maps – Technical reports – Field verification notes	– Willingness of the decision-makers and local stakeholders to promote and implement BD conservation activities – Mapping efforts are optimal
	Area (ha) (by forest type) under best management practices in LULUCF*, including monitoring of C stocks (CCM-5) *Conserve and enhance carbon stocks in selected forested areas.	– Dry forest: 620.1 ha – Humid forest: 970.85 ha	– Dry forest: 1,500 ha – Humid forest: 13,343 ha	– Field verification and assessment reports – C monitoring reports – Project evaluation reports: PIR/APR, mid-term and final evaluations	– Willingness of the decision-makers and local stakeholders to promote and implement best management practices in LUCUCF
	Area (ha) rehabilitated* (by forest type) (CCM-5) *Reforestation with native species, natural regeneration, and sustainable agroforestry and silvopastoral systems.	– Dry forest: 79.15 ha – Humid forest: 1,513.15 ha	– Dry forest: 3,000 ha – Humid forest: 547 ha		

	Change in coverage (ha) and quality (rapid assessment method) of the forests in the dry areas (LD-2)	– 6,838.47 ha	– 6,838.47 ha	– GIS/maps – Field surveys – Rapid assessment reports	– Sampling efforts are optimal – Environmental variability (including climate change) within normal ranges
	Avoided emissions (tCO_2-e) from deforestation by forest type during a 5-year period (SFM/REDD-1)	– Dry forest: 0 – Humid forest: 0	– Dry forest: 413,114 tCO_2-e – Humid forest: 468,360 tCO_2-e	– Tracking tool for SFM/REDD+ projects updated – C flow monitoring system reports	– There is interest by the Government of Guatemala to incorporate SFM principles into forestry and agricultural policies – Sampling efforts are optimal
Component 1: Regulatory and institutional framework integrates principles of sustainable forest management (SFM) and sustainable land management (SLM), and strengthens integrated environmental land management capacity.	National policies incorporate SLM and SFM considerations	– Forest incentives program for small landowners – Law for the Protection and Improvement of the Environment – Forestry Policy	– National Action Program to Combat Desertification and Drought (PROANDYS) updated – Agricultural Policy of Guatemala reformed	– Proposals/documents for necessary reforms – Official gazette/published policies	– The political will exists – There is legal feasibility
	Number of national agencies working with inter-agency agreements that integrate principles of SFM and SLM.	– 0	– 5: MARN, MAGA, INAB, CONAP, and ANAM	– Signed and/or modified agreements – Operational plans – Meeting minutes	
	Change in capacity of national technical staff as measured by capacity development indicators.	– INAB: 66.67% – CONAP: 57.14% – MAGA: 76.92% – MARN: 61.54%	– INAB: 76.67% – CONAP: 67.14% – MAGA: 86.92% – MARN: 71.54%	– Updated Capacity Development Scorecard – Project evaluation reports – Database containing training records	– National technical staff satisfactorily apply their new knowledge and skills – There is low staff turnover within the national agencies that benefit from the training activities

Outputs:

1.1. Interagency agreement for cooperation between the MARN, CONAP, the National Forests Institute (INAB), the Ministry of Agriculture, Livestock, and Food (MAGA), and the National Association of Municipal Governments (ANAM) that allows inclusion of SFM / SLM principles into forestry and agricultural policies, and that ensures the permanence of the project's benefits.

1.2. National Action Program to Combat Desertification and Drought updated.

1.3. Strengthened capacity of government field personnel (foresters and agricultural extension officers) in LULUCF management practices, SFM/REDD+

methodologies, and MRV. 1.4. Municipal-level SFM/SLM GIS mapping tool benefits the development and guides the implementation of municipal development plans at the national level. 1.5. National protocol for monitoring C flows has been developed and articulated with forest production / management plans (INAB), land use planning (municipalities), and conservation plans (CONAP).					
Component 2: Pilot projects for SFM/REDD+ and SLM reduce land degradation, increase C stocks, and strengthen BD conservation in southeastern and western Guatemala.	***Pilot 1**: SFM/REDD+ and SLM improve C stocks and reduce dry forest deforestation in a dry mountain landscape in southeastern Guatemala.*				
	tCO2-e sequestered through dry forest rehabilitation	– 14,299.7 tCO_2-e (302.5 ha)	– 116,848 tCO_2-e	– Field measurements/notes – C flow monitoring system reports – Project evaluation reports: PIR/APR, mid-term and final evaluations	– Sampling efforts are optimal
	Number of ha protected through REDD+ practices during a 5-year period	– 0	– 1,906 ha	– National maps of forest cover (only one verification at the end of 5 years)	– Mapping effort are optimal – There are stable markets for the sale and purchase of carbon credits or available international funds to make payments for performance: Minimum price of US$2.50/VCU
	Revenue/gross contributions (USD) through reduction of emissions under REDD+ during a 5-year period.	– 0	– $619,672 USD (247,869 VCUs)	– Requests to purchase VCUs (US$2.50/VCU) – Receipts for VCUs purchased – Reports/revenue records from sale of VCUs by the project	
	Change in the capacity of municipal staff as measured by capacity development indicators	<u>Municipalities (11 out of 15)</u>: – San Manuel Chaparrón: 15.38% – Jalapa: 33.33% – San Luis Jilotepeque: 51.28% – Mataquescuintla: 30.77% – Quesada: 35.71% – El Progreso: 25.64% – Santa Catarina Mita: 38.10% – Asunción Mita: 7.14% – Agua Blanca: 35.71% – San Rafael Las Flores: 30.77%	<u>Municipalities</u>: – San Manuel Chaparrón: 25.38% – Jalapa: 43.33% – San Luis Jilotepeque: 61.28% – Mataquescuintla: 40.77% – Quesada: 45.71% – El Progreso: 35.64% – Santa Catarina Mita: 48.10% – Asunción Mita: 17.14% – Agua Blanca: 45.71% – San Rafael Las Flores: 40.77% – Casillas: 66.41%	– Updated Capacity Development Scorecard – Project evaluation reports – Database containing training records	

		– Casillas: 56.41%			
	***Pilot 2**: SFM/REDD+ increases ecosystem connectivity and contributes to the conservation of BD in a humid montane landscape in western Guatemala.*				
	tCO2-e sequestered through humid montane forest rehabilitation	– 30,130.8 tCO_2-e	– 25,679 tCO_2	– Field measurements/notes – C flow monitoring system reports – Project evaluation reports: PIR/APR, mid-term and final evaluations	– Sampling efforts are optimal
	Number of ha protected through REDD+ practices during a 5-year period	– 0	– 1,012 ha	– National maps of forest cover (only one verification at the end of 5 years)	– Mapping effort are optimal – There are stable markets for the sale and purchase of carbon credits or available international funds to make payments for performance: Minimum price of US$2.50/VCU
	Revenue/gross contributions (USD) through reduction of emissions under REDD+ during a 5-year period	– 0	– $702,540 USD (281,016 VCUs)	– Requests to purchase VCUs (US$2.50/VCU). – Receipts for VCUs purchased – Reports/revenue records from sale of VCUs by the project	

	Number of key species by biological groups (amphibians and plants) present in the project area	– Amphibians: 8 (*Plectrohyla tecunumani, Bolitoglossa nussbaumi, Pseudoeurycea rex, Plectrohyla hartwegi, Dendrotriton cuchumatanus, Plectrohyla hartwegi, Plectrohyla ixil, Craugastor lineatus*) – Plants: 11 *Pinus hartwegii, Pinus pseudostrobus, Pinus ayacahuite, Alnus jorulensis, Alnus firmifolia, Arbutus xalapensis, Cupressus lusitanica, Juniperus standleyi, Abies guatemalensis, Quercus sp., Budleya nítida*	– Amphibians: 8 – Plants: 11	– Monitoring reports/databases – Biological censuses and field notes	– There are no substantial changes in land use/coverage – Sampling efforts are optimal – Environmental changes within normal ranges of variability
	Change in the capacity of municipal staff and community members as measured by capacity development indicators	Municipalities: – Santa Eulalia: 33.33% – Chiantla: 50.00% – San Pedro Soloma: 33.33% – San Juan Ixcoy: 38.10% – Todos Santos Cuchumatán: 73.81% CSOs: – ASOCUCH: 64.10% – ICUZONDEHUE: 66.67% – ASILVOCHANCOL: 64.10% – ACODIHUE: 80.00%	Municipalities: – Santa Eulalia: 43.33% – Chiantla: 60.00% – San Pedro Soloma: 43.33% – San Juan Ixcoy: 48.10% – Todos Santos Cuchumatán: 83.81% CSOs: – ASOCUCH: 74.10% – ICUZONDEHUE: 76.67% – ASILVOCHANCOL: 74.10% – ACODIHUE: 90.00%	– Updated Capacity Development Scorecard – Project evaluation reports – Database containing training records	– There is willingness by the local farmers to incorporate BD conservation as part of their activities

Outputs:

***Pilot 1**: SFM REDD+ and SLM increase C stocks and reduce deforestation of the dry forest in a dry mountain landscape in southeastern Guatemala.*

2.1. REDD+ pilot project targeted at 17,456 ha; 3,500 ha of which will be restored and reforested by planting native species and through natural regeneration. This pilot project includes the development and implementation of a proposal for performance-based payment schemes (voluntary market or International Fund) to

promote the conservation of dry forest.

2.2. Methodology for REDD+ pilot project in the dry forest applied.

2.3. SFM/SLM plans for the upper and mid sections of the Ostúa River Watershed associated with the dry forests and the Ayarza Lagoon include planning for firewood use, the establishment of riparian buffer strips, and the use of windbreaks and live fences.

2.4. Energy-efficient stoves program reduces firewood consumption and GHG emissions.

2.5. Strengthened capacity of municipalities and community members in the southeastern region for including SFM and SLM, and REDD+ tools in local development plans in order to contribute to the institutional sustainability of project outcomes.

2.6. Development plans for up to fifteen (15) municipalities incorporate SFM /REDD+ and SLM principles and their measures for implementation.

2.7. Four (4) environmental/forestry municipal offices (Jalapa, Jutiapa, and Santa Rosa) are fully equipped and with staff trained to control forest fires, and enhance BD conservation of BD and C sequestration.

***Pilot 2**: SFM/REDD+ increases ecosystem connectivity and contributes to the conservation of BD in a humid mountain landscape in western Guatemala.*

2.8. REDD+ pilot project for 34,357 ha in a production/conservation landscape that includes the Todos Santos Cuchumatanes PA. This pilot project includes developing and implementing a proposal for performance-based payment schemes (voluntary market or the International Fund) to promote the conservation of humid montane forests.

2.9. Methodology for REDD+ pilot project in humid montane forest applied.

2.10. Biological corridor established (420 ha) between forest remnants.

2.11. Four (4) BD/forest conservation agreements between the municipality and agriculture/cattle ranching associations facilitate implementing two incentives (PINFOR, PINPEP) in order to maintain the forest cover (13,843 ha) in an agriculture/cattle ranching production landscape, and ensures permanence of the project's benefits.

2.12. Strengthened capacity of municipalities and community members in the western region for including SFM, REDD+, CC mitigation, and BD conservation tools in local development plans in order to contribute to the institutional sustainability of project outcomes.

2.13. BD conservation criteria (ecosystem connectivity and PA buffers) and sustainable agriculture/cattle ranching practices incorporated into the development plans for five (5) municipalities.

2.14. Five (5) monitoring systems to assess SFM/REDD+ and BD benefits at the municipal level.

4. TOTAL BUDGET AND WORKPLAN

Award ID:	00073935	Project ID(s):	00086515
Award Title:	Guatemala: Sustainable Forest Management and Multiple Global Environmental Benefits		
Business Unit:	GTM10		
Project Title:	Sustainable Forest Management and Multiple Global Environmental Benefits		
PIMS no.	4637		
Implementing Partner (Executing Agency)	Ministry of the Environment and Natural Resources of Guatemala (MARN); Protected Areas National Council (CONAP)		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
COMPONENT 1:	UNDP	62000	GEF	71300	Local Consultants	16,578	16,578				33,156	1
				71400	Contractual Services Individuals	6,876	6,876	6,112			19,864	2
				71600	Travel	1,500					1,500	3
				72100	Contractual Services Companies	254,000	94,000	89,000			437,000	4
				72200	Equipment and Furniture	700					700	5
				72500	Supplies	1,500	1,500	1,500			4,500	6
				74200	Audio Visual & Print Production Cost		17,700				17,700	7
				74500	Miscellaneous Expenses	1,025	1,025	1,030			3,080	8
				75700	Training, Workshops and Confer	6,250	10,250				16,500	9
					Total Outcome 1	288,429	147,929	97,642			534,000	
COMPONENT 2 (INCLUDES MONITORING AND EVALUATION COSTS):	UNDP	62000	GEF	71300	Local Consultants	47,892	47,892				95,784	10
				71400	Contractual Services Individuals	34,740	38,556	40,084	43,140	43,140	199,660	11
				71600	Travel	15,100	15,100	11,275	11,275	11,275	64,025	12
				72100	Contractual Services Companies	447,965	768,965	391,510	367,700	500,855	2,476,995	13
				72200	Equipment and Furniture	7,150	15,500	1,500	1,500	1,500	27,150	14

				72300	Materials & Goods	2,400	2,400	141,900	139,500	139,500	425,700	15
				72500	Supplies	3,000	3,000	3,000			9,000	16
				72800	IT Equipment	1,750	48,150	150	150	150	50,350	17
				74200	Audio Visual & Print Production Cost		16,000	12,000			28,000	18
				74500	Miscellaneous Expenses	2,440	2,440	2,440	2,440	2,451	12,211	19
				75700	Training, Workshops and Confer	13,500	18,000	7,500			39,000	20
					Sub-Total Outcome 2	575,937	976,003	611,359	565,705	698,871	3,427,875	
				71200	International Consultants			22,050		27,125	49,175	21
				71300	Local Consultants			14,175		18,375	32,550	22
				71400	Contractual Services Individuals	2,000	2,000	2,000	2,000	3,000	11,000	23
				71600	Travel			13,800		14,800	28,600	24
				72100	Contractual Services Companies	7,400	4,900	6,400	4,900	6,600	30,200	25
				72500	Supplies			150		170	320	26
					Sub-Total M&E	9,400	6,900	58,575	6,900	70,070	151,845	
					Total Outcome 2	585,337	982,903	669,934	572,605	768,941	3,579,720	
PROJECT MANAGEMENT	**UNDP**	**62000**	**GEF**	71400	Contractual Services Individuals	38,730	38,730	37,966	41,022	41,022	197,470	27
				71600	Travel	38,900	8,900	8,900	8,900	8,900	74,500	28
				72200	Equipment and Furniture	1,210					1,210	29
				72500	Supplies	300	300	300	300	300	1,500	30
				72800	IT Equipment	4,850					4,850	31
				74500	Miscellaneous Expenses	290	290	290	290	290	1,450	32
					MOSS Costs	3,056	561	561	561	561	5,300	33
					Total Project Management	87,336	48,781	48,017	51,073	51,073	286,280	
					PROJECT TOTAL	961,102	1,179,613	815,593	623,678	820,014	4,400,000	

Total Budget Summary

Donor Name	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
GEF	961,102	1,179,613	815,593	623,678	820,014	**4,400,000**
Ministry of the Environment and Natural Resources (MARN)	111,476.96	111,476.00	111,476.00	111,476.00	111,476.00	**557,380.96**
German Development Bank (KfW)	2,376,000.00	2,376,000.00	2,376,000.00	2,376,000.00	2,376,000.00	**11,880,000.00**
Municipality of Santa Eulalia	4,928.00	4,928.00	2,464.00			**12,320.00**
Municipality of Todos Santos Cuchumatán	8,254.00	8,254.00	4,127.00			**20,635.00**
Municipality of San Juan Ixcoy	9,627.00	9,627.00	4,814.22			**24,068.22**
Fundación para el Ecodesarrollo y la Conservación (FUNDAECO)	148,524.60	148,524.60	17,770.60	17,770.60	17,770.60	**350,361.00**
Foundation of Integrated Development of Men and the Environment (CALMECAC)	163,582.50	103,582.50	16,030.00	16,030.00	16,030.00	**315,255.00**
UNDP	111,476.20	111,476.20	111,476.20	111,476.20	111,476.20	**557,381.00**
TOTAL	**3,894,971.26**	**4,053,481**	**3,459,751.02**	**3,256,430.80**	**3,452,766.80**	**18,117,401.18**

Atlas Budget Summary

Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
71200	International Consultants			22,050.00		27,125	**49,175**
71300	Local Consultants	64,470	64,470	14,175	0	18,375	**161,490**
71400	Contractual Services- Individuals	82,346	86,162	86,162	86,162	87,162	**427,994**
71600	Travel	55,500	24,000	33,975	20,175	34,975	**168,625**
72100	Contractual Services - Companies	709,365	867,865	486,910	372,600	507,455	**2,944,195**
72200	Equipment and Furniture	9,060	15,500	1,500	1,500	1,500	**29,060**
72300	Materials & Goods	2,400	2,400	141,900	139,500	139,500	**425,700**
72500	Supplies	4,800	4,800	4,950	300	470	**15,320**
72800	IT Equipment	6,600	48,150	150	150	150	**55,200**

74200	Audio Visual & Print Prod. Costs	0	33,700	12,000	0	0	**45,700**
74500	Miscellaneous	3,755	3,755	3,760	2,730	2,741	**16,741**
75700	Training, Workshops and Confer	19,750	28,250	7,500	0	0	**55,500**
	MOSS Costs	3,056	561	561	561	561	**5,300**
	Total	**961,102**	**1,179,613**	**815,593**	**623,678**	**820,014**	**4,400,000**

Budget Line & Description	**Total**	**Percentage**
71200 - International Consultants	49,175	1.1%
71300 - Local Consultants	161,490	3.7%
71400 - Contractual Services- Individuals	427,994	9.7%
71600 - Travel	168,625	3.8%
72100 - Contractual Services - Companies	2,944,195	66.9%
72200 - Equipment and Furniture	29,060	0.7%
72300 - Materials & Goods	425,700	9.7%
72500 - Supplies	15,320	0.3%
72800 - IT Equipment	55,200	1.3%
74200 - Audio Visual & Print Prod. Costs	45,700	1.0%
74500 - Miscellaneous Expenses	16,741	0.4%
75700 - Training, Workshops and Confer	55,500	1.3%
MOSS Costs	5,300	0.1%
TOTAL	**4,400,000**	**100.0%**

Component	**Total budget assigned**	**Percentage of total budget assigned**
Component 1	534,000	12.1%
Component 2	3,579,720	81.4%
Project Management	286,280	6.5%
TOTAL	**4,400,000**	**100.0%**

Project Budget Notes

Atlas Category	Atlas Code	Budget Notes
Component 1. Regulatory and institutional framework integrates principles of SFM and SLM, and strengthens integrated environmental land management capacity.		
1. Local Consultants	71300	a) Policy Consultant 1: Development of an interagency agreement for cooperation between the MARN, CONAP, INAB, MAGA, and ANAM. Total cost: $14,736; 24 weeks at $614/week. b) Land Degradation Expert: Update the National Action Program to Combat Desertification and Drought (PROANDYS). Total cost: $18,420; 30 weeks at $614/week.
2. Contractual Services – Individuals	71400	SFM/SLM Expert: technical support for development of an interagency agreement for cooperation, updating of the PROANDYS, and development of a municipal-level GIS-based mapping tool to assess SFM and SLM benefits. Total cost: $19,864; 26 weeks at $764/week.
3. Travel	71600	Travel costs (DSA Land Degradation Expert) related to consultations for updating the PROANDYS. Total cost: $1,500; $75/day for 20 days.
4. Contractual Services - Companies	72100	Contractual services for: a) Support to the design of a SLM, SFM, and CC national monitoring, reporting, and verification (MRV) system for national institutions and municipalities. Total cost: $130,000. b) Training module for SFM/REDD+ (MRV). Total cost: $30,000. c) Training module for SLM and CC/LULUCF (MRV). Total cost: $30,000. d) Development of a regional-level SFM/SLM GIS mapping tool in support to the implementation of municipal development plans. Total cost: $87,000. e) Development and validation of a national protocol for monitoring C flows). Total cost: $160,000.
5. Equipment and Furniture	72200	a) Video beam. Total cost: $500. b) Digital camera. Total cost: $200.
6. Supplies	72500	Office and field supplies for activities and meetings related to the development of a regulatory and institutional framework that integrates principles of SFM and SLM. Total cost $4,500; $1,500/yr for years 1-3.
7. Audiovisual & Print Prod. Costs	74200	a) Publication of an interagency agreement for cooperation between the MARN, CONAP, INAB, MAGA, and ANAM in the Official Gazette. Total cost: $1,000. b) Publication of the PROANDYS (new version). Total cost: $6,700. c) Publication of the national protocol to assess C flows. Total cost: $10,000.
8. Miscellaneous Expenses	74500	Incidental expenses related to the development of a regulatory and institutional framework that integrates principles of SFM and SLM. Total cost: $3,080.
9. Training, Workshops and Confer	75700	a) Five (5) workshops for the development of an interagency agreement for cooperation between the MARN, CONAP, INAB, MAGA, and ANAM. Total cost: $2,500; $500/event. b) One (1) workshop: signature of the interagency agreement for cooperation between the MARN, CONAP, INAB, MAGA, and ANAM. Total cost: $2,000. c) Two (2) workshops/consultations for updating the PROANDYS. Total cost: $2,000, $1,000/event. d) Two (2) workshops with technical staff from national agencies (MARN, INAB, CONAP, and MAGA) for the validation of new version of the PROANDYS. Total cost: $1,000; $500/event. e) One (1) workshop to present to project stakeholders the proposed updates to the PROANDYS. Total cost: $1,000.

		f) Three (3) workshops for the discussion and development of a national protocol to assess C flows. Total cost: $6,000; $2,000/event. g) One (1) workshop for the final validation of a national protocol to assess C flows. Total cost: $2,000.
Component 2. Pilot projects for SFM/REDD+ and SLM reduce land degradation, improve C stocks, and enhance BD conservation in southeastern and western Guatemala.		
10. Local Consultants	71300	a) Watershed/hydrology expert (1): development of SFM/SLM plans for two (2) watersheds. Total cost: $63,856; 104 weeks at $614/week. b) Legal expert (1): incorporation of SFM/REDD+ and SLM principles into development plans for up to fifteen (15) municipalities. Total cost: $31,928; 52weeks at $614/week.
11. Contractual Services – Individuals	71400	a) SFM/SLM technical Expert: development of SFM/SLM plans for two (2) watersheds, technical support for SFM/SLM plan implementation, and of development plans for up to fifteen (15) municipalities to incorporate SFM/REDD+ and SLM principles. Total cost: $79,456; 104 weeks at $764/week. b) Technical assistant (full time): field coordination of projects activities for Pilot site 1. Total cost: $120,204; 252 weeks at $477/week.
12. Travel	71600	a) Local transportation. Total cost: $12,000; $2,400/year. b) DSA Watershed/hydrology Expert: $5,400; $75/day (36 days/year) for 2 years. c) DSA Legal Expert: $2,250; $75/day (30 days/year) for 1 year. d) DSA SFM/SLM Technical Expert: $18,750; $62.50/day (60 days/year) for 5 years. e) Gas (motorcycle). Total cost: $5,000; $1,000/year. f) DSA Technical Assistant: $20,625; $62.50/day (66 days/year).
13. Contractual Services - Companies	72100	Contractual services for implementation of Pilot 1 activities: a) Implementation of a REDD+ pilot project for 17,456 ha in a dry forest production/conservation landscape and application of a REDD+ methodology. Total cost: $700,050 including: b) Increase of C stocks through reforestation, rehabilitation, natural regeneration, and agroforestry. Total cost: $707,000. c) Development and implementation of an energy-efficient stoves program (2,000 stoves) reduces firewood consumption and GHG emissions. Total cost: $376,000; $188/unit. d) Preparation of the first report of emissions reductions to the VCS. Total cost; $15,000. e) Training module for strengthening the capacity of municipalities and community members for including SLM and SFM/REDD+ tools in local development plans. Total cost: $25,000 f) Training module for municipal staff for the control of forest fires, and enhanced conservation of BD and C sequestration. Total cost: $15,000. Contractual services for implementation of Pilot 2 activities: a) Implementation of a REDD+ pilot project for 34,357 ha in a humid forest production/conservation landscape (Consulting Firm). Total cost: $139,750, including: i. Application of a REDD+ methodology. ii. Strengthened capacity of municipalities and community members for including SFM/REDD+ tools in local development plans. iii. Monitoring systems to assess SFM/REDD+ benefits at the municipal level. b) Increase C stocks through reforestation, rehabilitation, natural regeneration, and agroforestry. Total cost: $100,000. c) Conservation of BD in a humid mountain landscape in western Guatemala. Total cost: 399,195:

		i. Biological corridor established (420 ha) between forest remnants ii. Conservation agreements between the municipality and agriculture/cattle ranching associations to maintain the forest cover (13,843 ha) in an agriculture/cattle ranching production landscape iii. Strengthened capacity of municipalities and community members for including BD conservation tools in local development plans iv. BD conservation criteria (ecosystem connectivity and PA buffers) and sustainable agriculture/cattle ranching practices incorporated into municipal development plans v. Monitoring systems to assess BD benefits at the municipal level
14. Equipment and Furniture	72200	a) Equipment and furniture for four (4) environmental/forestry municipal offices. Total cost: $6,000, $1,500/office. b) Four (4) forestry assessment sets (environmental/forestry municipal office). Total cost: $8,000, $2,000/unit. c) One (1) motorcycle. Total cost: $5,000. d) Maintenance & Insurance: Total cost: $7,500; $1,500/year e) Video beam. Total cost: $500. f) Digital camera. Total cost: $150.
15. Materials & Goods	72300	a) Materials and goods related to the development of SFM/SLM plans for two (2) watersheds and of development plans for up to fifteen (15) municipalities to incorporate SFM/REDD+ and SLM principles. Total cost: $7,200, $3,600/plan. b) Materials and goods related to the establishment of up to fifteen (15) silvopastoral plots associated to SFM/SLM plans for two (2) watersheds. Total cost: $67,500; $4,500/plot. c) Materials and goods related to the establishment of ninety (90) small pilot plots for sustainable agroforestry and rehabilitation of C stocks (reforestation and natural regeneration) associated to SFM/SLM plans for two (2) watersheds. Total cost: $351,000; $3,900/plot.
16. Supplies	72500	Office and field supplies the development of SFM/SLM plans for two (2) watersheds and of development plans for up to fifteen (15) municipalities to incorporate SFM/REDD+ and SLM principles. Total cost: $9,000; $3,000/year.
17. IT Equipment	72800	a) Hardware and software for four (4) environmental/forestry municipal offices. Total cost: $48,000, $12,000/office. b) One (1) computer: technical assistant/field coordinator (pilot 1). Total cost: $1,100, $1,100/unit. c) One (1) printer. Total cost: $500; $500/unit. d) IT supplies & maintenance. Total cost: $750; $150/year.
18. Audiovisual & Print Prod. Costs	74200	a) Publication of approved SFM/SLM plans for two (2) watersheds (upper and middle sections of the Ostúa River Watershed associated with the dry forests and the Ayarza Lagoon). Total cost: $16,000; $8,000/plan. b) Publication of up to fifteen (15) municipal development plans that incorporate SFM/REDD+ and SLM principles. Total cost: $12,000; $800/plan.
19. Miscellaneous Expenses	74500	Incidental expenses related to pilot projects for SFM/REDD+ and SLM reduce land degradation, improve C stocks, and enhance BD conservation in southeastern and western Guatemala. Total cost: $12,211.
20. Training, Workshops and Confer	75700	a) Eight (8) planning workshops for the development of SFM/SLM plans for two (2) watersheds (upper and middle sections of the Ostúa River Watershed associated with the dry forests and the Ayarza Lagoon). Total cost: $12,000; $1,500/event. b) Two (2) workshop for the final validation of the SFM/SLM plans for two (2) watersheds (upper and middle sections of the Ostúa River Watershed associated with the dry forests and the Ayarza Lagoon). Total cost: $6,000; $3,000/event. c) Fifteen (15) meetings with decision makers and technical staff of municipalities for the development of municipal plans that incorporate SFM/REDD+ and SLM principles. Total cost: $7,500; $500/event. d) Three (3) regional planning workshops for the development of municipal plans that incorporate SFM/REDD+ and SLM

		principles. Total cost: $6,000; $2,000/event. e) Fifteen (15) meetings with decision makers and technical staff of municipalities for the validation and approval of municipal plans that incorporate SFM/REDD+ and SLM principles. Total cost: $7,500; $500/event.
Monitoring and Evaluation		
21. International Consultants	71200	a) Mid-term project evaluation: Total cost: $22,050; 4.5 weeks at $4,900/week. b) Final project evaluation. Total cost: $27,125; 5 weeks at $5,425/week.
22. Local Consultants	71300	a) Mid-term project evaluation: Total cost: $14,175; 4.5 weeks at $3,150/week. b) Final project evaluation. Total cost: $18,375; 5 weeks at $3,675/week.
23. Contractual Services – Individuals	71400	a) Review and systematization of lessons learned and best practices. Total cost: $5,000; $1,000/yr. b) Terminal report. Total cost: $2,000. c) Technical reports on specific issues or areas of activity of the project. Total cost: $5,000; $1,000/yr.
24. Travel	71600	a) Travel costs for mid-term evaluation. Total cost: $13,800. b) Travel costs for final evaluation: Total cost $14,800.
25. Contractual Services – Companies	71400	a) Project Inception Workshop. Total cost $2,500. b) Mid-term ($1,500) and final evaluation ($1,700) related workshops. c) Project board meetings. Total cost: $2,500; $500/yr. d) External audit (5). Total cost: $22,000; $4,400/yr.
26. Supplies	72500	Supplies for mid-term ($150) and final ($170) evaluations. Total cost: $320
Project Management		
27. Contractual Services-Individuals	71400	a) Project coordinator (part time): project planning, day-to-day management of project activities, project reporting, maintaining key relationships among stakeholders. Total cost: $99,320; 130 weeks at $764/week. b) Secretary (part time): overall project assistance. Total cost: $43,160; 130 weeks at $332/week. c) Financial Assistant (part time). Responsible for financial management of the project, accounting, purchasing, and reporting. Total cost: $54,990; 130 weeks at $423/week.
28. Travel	71600	a) Vehicle. Total cost: $30,000. b) Gas. Total cost: $11,500; $2,300/year for 5 years. c) Maintenance & Insurance. Total cost: $19,250; $3,850/year for 5 years. d) DSA Project Coordinator. Total cost: $13,750; $62.50/day (44 days/year).
29. Equipment and Furniture	72200	a) Four (4) desks and chairs for Project Implementation Unit staff. Total cost: $600; $150/unit. b) Video beam. Total cost: $460. c) Digital camera. Total cost: $150.
30. Supplies	72500	Office supplies. Total cost: $1,500; $300/year.
31. IT Equipment	72800	a) Three (3) computers. Total cost: $3,300, $1,100/unit. b) One (1) printer. Total cost: $400; $400/unit. c) IT supplies & maintenance. Total cost: $1,150; $230/year.
32. Miscellaneous Expenses	74500	Incidental expenses related to project management. Total cost: $1,450.
33. MOSS Costs		Telecommunications

		a) Two (2) portable radios. Total cost: $620; $310/unit. Medical Support b) One (1) first aid kit for vehicle. Total cost: $44. c) One (1) first aid kit for office. Total cost: $350. Vehicles d) One (1) ABC Extinguisher for vehicle. Total cost: $38. e) One (1) road Emergency Kit. Total cost: $190. f) GPS. Total cost: $329. g) GPS service. Total cost: $885; $177/year. h) One (1) vehicle base radio. Total cost: $532. i) Protective coating. Total cost: $139. Offices and Facilities j) One (1) ABC Extinguisher for office. Total cost: $63. Shared MOSS Costs k) Maintenance of the telecommunication network. Total cost: $190. l) Security training (4 persons). Total cost: $1,020; $255/year. Other m) E-mail account (one person: project coordinator). Total cost: $900; $15/month for 60 months.

5. MANAGEMENT ARRANGEMENTS

183. The Project will be executed under the Direct Implementing Modality (DIM) as requested by the GoG and according to the standards and regulations of the UNDP. This modality of implementation will facilitate communication between sector institutions and in coordination with other UNDP projects, such as the GEF project *Conservation and sustainable use of biodiversity in coastal and marine protected areas (MPAs)* and the UNFCCC Adaptation Fund project *Climate change-resilient productive landscapes and socio-economic networks advanced in Guatemala.* In addition, the project will have an advisory committee to ensure a focus on gender and human rights, as well as other cross-cutting issues. The UNDP will identify partners responsible for carrying out project activities. These partners may include the central government, local government, NGOs, and UN agencies. In the case of NGOs and UN agencies, their own financial rules are applicable to the activities they carry out, provided these are not inconsistent with those of UNDP. If the government implements part of the project, as a responsible party their own rules and regulations can apply, or alternatively, establish procedures agreed to with UNDP in all cases ensuring they are not inconsistent with those rules and regulations of UNDP.

184. In its role as GEF Implementing Agency (IA) for this project UNDP shall provide project cycle management services as defined by the GEF Council (described in Annex 8.8 – Project Management Services) and will also execute the project under DIM.

185. The duration of the project will be 5 years. Implementation of the project will be carried out under the general guidance of a *Project Board/Project Steering Committee* (PSC), specifically formed for this purpose. According to UNDP policy, each project must install a Project Board as the highest body responsible for making management decisions and advising the Project Manager or Coordinator when guidance is required, including approval of revisions to the budget. The project assurance reviews conducted by this group are carried out according to designated decision points during the development of the project or, as necessary, when the Project Manager or Coordinator deems necessary. The Board is consulted by the Project Manager or Coordinator when it comes to making decisions in the event that the project limits have been exceeded.

186. The above group includes the following two extensive functions: a) Executive Agency: Represents the tenure of the project and chairs the Board; and b) Senior Provider: An individual or group representing the interests of parties who provide funding and/or technical assistance to the project. Their main function on the Board is to provide guidance on the technical feasibility of the project.

187. The main responsibilities of the Project Broad are:

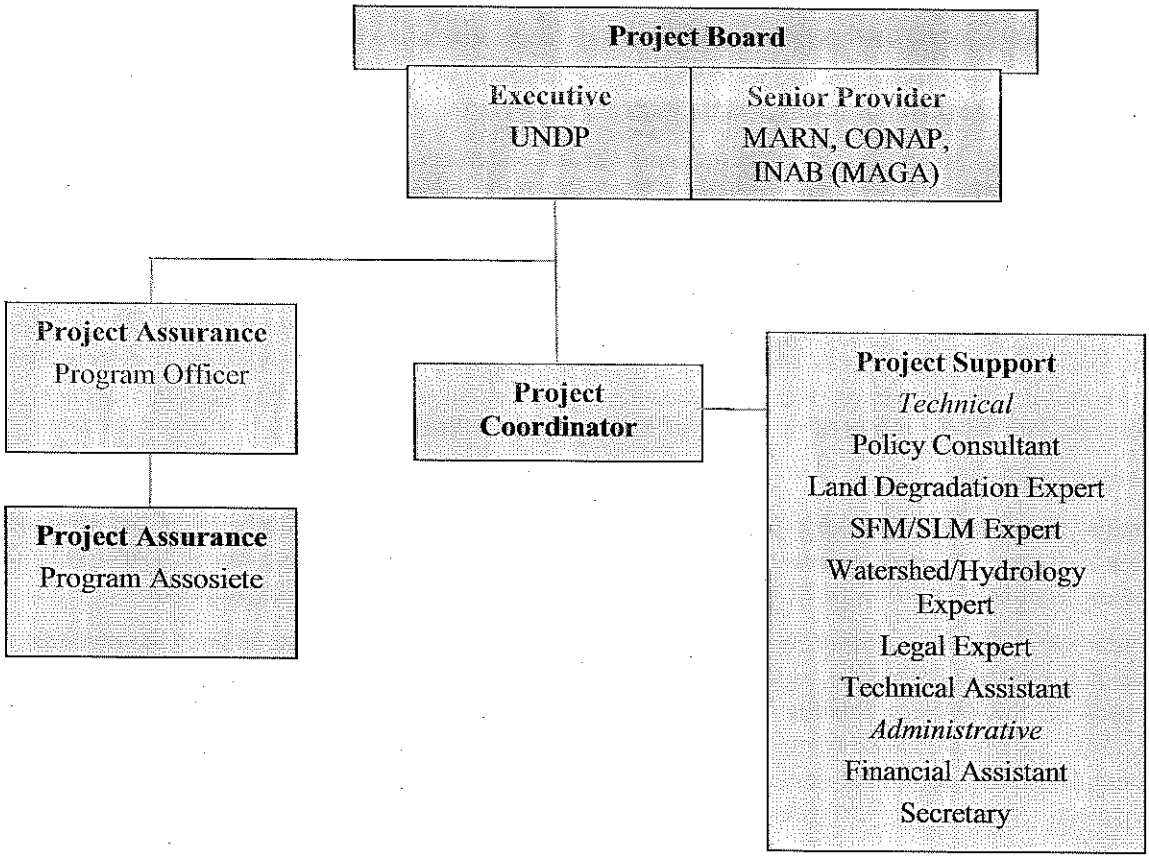
- Approve the project work plan;
- Make decisions regarding the milestones defined in the Annual Operational Plan;
- Monitor project development; ensure that activities are contextualized in the strategies and objectives of the Project;
- Approve budget and substantial project revisions and address issues relating to the Project Manager's report; and
- Approve the project plans and technical reports and financial progress.

188. The Project Board will be composed as follows:

- The UNDP, who will assume the role of Executive Agency.
- MARN, CONAP, MAGA, and INAB, who will assume the role of the Senior Providers.
- The Project Board shall meet regularly every six months and in extraordinary sessions when convened by the Executive Agency.
- Project Assurance: The UNDP will assign a Program Officer to support the Project Board in overseeing and monitoring the project in an objective and independent way.

189. Local stakeholders will have an additional mechanism to influence the project through a *Local Steering Committee* (LSC), which will consist of appointed members, and whose composition, responsibilities, and function will be determined by the stakeholders themselves. The LSC for the implementation phase will give continuity to the LSC that existed during the PPG phase. The LSC will meet regularly to discuss the project's progress and to communicate interests and concerns to the Project Coordinator. Subject to confirmation at project inception, the LSC may also designate sub-committees to discuss specific issues such as the mainstreaming of gender considerations into project operations.

190. The organizational chart for the Project is as follows:



191. Project implementation will be the responsibility of the *Project Implementation Unit* (PIU). The PIU will be led by a *Project Coordinator* (PC) who will be the signing authority of requests to UNDP for disbursements of project funds. The PC will lead a team composed of a financial assistant and a secretary, based in Guatemala City. The project financial assistant will have as his/her principal role to ensure the fluidity of administrative procedures and budget disbursements from UNDP to the PIU. At the community level, a technical assistant will be contracted to provide follow up to initiatives promoted by the project.

192. In addition to the specific positions underlined above, a series of sub-contracts will be necessary in order to ensure and complement the technical capacity of the members of the PIU. These contracts will be entered into in accordance with the guidelines of the UNDP and the terms of reference defined by the PC during the first month of the implementation phase or annually, in accordance with the project's work plan.

193. Moreover, the project's financial management will be supported by the UNDP office in Guatemala. To this end, in the first 45 days after the start of the project, a guide should be made that will define levels

of financial authority, responsibility, and accountability. Among others, the guide will include the following:

- Guidelines for recording all expenses in the combined delivery report (CDR).
- Establishment of a project accounting system to maintain updated information on the financial situation.
- Mechanisms for expenditure control and segregation of duties.
- A system for the management of unliquidated obligations.
- Procedures for making payments and monitoring of contractor performance.
- Financial regulations, policies, and procedures applicable to UNDP DIM projects.
- Procedures for approving budgets.
- Implementing the internal control framework.

6. MONITORING FRAMEWORK AND EVALUATION

194. Project M&E will be conducted in accordance with the established UNDP and GEF procedures and will be provided by the project team and the UNDP-CO with support from the UNDP/GEF RCU in Panama City. The Project Results Framework in Section 3 provides performance and impact indicators for project implementation along with their corresponding means of verification. The M&E plan includes an inception report, project implementation reviews, quarterly and annual review reports, mid-term and final evaluations, and audits. The following sections outline the principle components of the M&E plan and indicative cost estimates related to M&E activities. The project's M&E plan will be presented and finalized in the Project Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Project Inception Phase

195. A **Project Inception Workshop** (IW) will be held within the first three (3) months of project start-up with the full project team, relevant GoG counterparts, co-financing partners, the UNDP-CO, and representation from the UNDP-GEF RCU, as well as UNDP-GEF headquarters as appropriate.

196. A fundamental objective of this IW will be to help the project team to understand and take ownership of the project's goal and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the Project Results Framework and GEF Tracking Tools (BD, LD, CCM, and SFM/REDD+).. This will include reviewing the results framework (indicators, means of verification, and assumptions), imparting additional detail as needed, and on the basis of this exercise, finalizing the AWP with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project.

197. Additionally, the purpose and objective of the IW will be to: a) introduce project staff to the UNDP-GEF team that will support the project during its implementation, namely the CO and responsible RCU staff; b) detail the roles, support services, and complementary responsibilities of UNDP-CO and RCU staff in relation to the project team; c) provide a detailed overview of UNDP-GEF reporting and M&E requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), as well as Mid-term and Final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project-related budgetary planning, budget reviews including arrangements for annual audit, and mandatory budget re-phasings.

198. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines and conflict resolution mechanisms. The Terms of Reference (ToRs) for project staff and decision-making structures will be discussed, as needed, in order to clarify each party's responsibilities during the project's implementation phase. The IW will also be used to plan and schedule the Tripartite Committee Reviews.

Monitoring Responsibilities and Events

199. A detailed schedule of project review meetings will be developed by the project management in consultation with project implementation partners and stakeholder representatives and incorporated in the Project Inception Report. Such a schedule will include: a) tentative timeframes for Tripartite Committee (TPC) Reviews, Steering Committee (or relevant advisory and/or coordination mechanisms); and b) project-related M&E activities.

200. **Day-to-day monitoring** of implementation progress will be the responsibility of the PC based on the project's AWP and its indicators. The PC will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. The PC will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the IW with support from UNDP-CO and assisted by the UNDP-GEF RCU. Specific targets for the first-year implementation progress indicators together with their means of verification will be developed at this workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the AWP. Targets and indicators for subsequent years will be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

201. Measurement of impact indicators related to global benefits will occur according to the schedules defined through specific studies that are to form part of the project's activities and specified in the Project Results Framework.

202. **Periodic monitoring** of implementation progress will be undertaken by the UNDP CO through quarterly meetings with the project implementation team, or more frequently as deemed necessary. This will allow parties to take stock of and to troubleshoot any problems pertaining to the project in a timely fashion to ensure the timely implementation of project activities. The UNDP CO and UNDP-GEF RCU, as appropriate, will conduct yearly visits to the project's field sites, or more often based on an agreed upon schedule to be detailed in the project's Inception Report and AWPs to assess first-hand project progress. Any other member of the Steering Committee can also take part in these trips, as decided by the Steering Committee. A Field Visit Report will be prepared by the UNDP CO and circulated no less than one month after the visit to the project team, all Steering Committee members, and UNDP-GEF.

203. **Annual monitoring** will occur through the Tripartite Committee (TPC) Reviews. This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to TPC review at least once every year. The first such meeting will be held within the first twelve (12) months of the start of full implementation. The project proponent will prepare an APR and submit it to UNDP CO and the UNDP-GEF regional office at least two weeks prior to the TPC for review and comments.

204. The APR will be used as one of the basic documents for discussions in the TPC. The PC will present the APR to the TPC, highlighting policy issues and recommendations for the decision of the TPC participants. The PC will also inform the participants of any agreement reached by stakeholders during the APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary. The TPC has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the IW, based on delivery rates and qualitative assessments of achievements of outputs.

205. The **Terminal TPC Review** is held in the last month of project operations. The PC is responsible for preparing the Terminal Report and submitting it to UNDP-CO and to UNDP-GEF RCU. It shall be prepared in draft at least two months in advance of the TPC meeting in order to allow review, and will serve as the basis for discussions in the TPC meeting. The terminal TPC review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any

actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learned can be captured to feed into other projects being implemented.

Project Monitoring Reporting

206. The PC, in conjunction with the UNDP-GEF extended team, will be responsible for the preparation and submission of the following reports that form part of the monitoring process and that are mandatory.

207. A **Project Inception Report** (IR) will be prepared immediately following the IW. It will include a detailed First Year/AWP divided in quarterly timeframes detailing the activities and progress indicators that will guide implementation during the first year of the project. This work plan will include the dates of specific field visits, support missions from the UNDP CO or the RCU or consultants, as well as timeframes for meetings of the project's decision-making structures. The IR will also include the detailed project budget for the first full year of implementation, prepared on the basis of the AWP, and including any M&E requirements to effectively measure project performance during the targeted 12-month timeframe. The IR will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions, and feedback mechanisms of project-related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. When finalized, the IR will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to the IR's circulation, the UNDP CO and UNDP-GEF's RCU will review the document.

208. The **Annual Project Report** (APR) is a UNDP requirement and part of UNDP CO central oversight, monitoring, and project management. It is a self-assessment report by the project management to the CO and provides input to the country office reporting process and the Results-Oriented Annual Report (ROAR), as well as forming a key input to the TPC Review. An APR will be prepared on an annual basis prior to the TPC review, to reflect progress achieved in meeting the project's AWP and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The format of the APR is flexible but should include the following sections: a) project risks, issues, and adaptive management; b) project progress against pre-defined indicators and targets, c) outcome performance; and d) lessons learned and best practices.

209. The **Project Implementation Review** (PIR) is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for one year, a PIR must be completed by the CO together with the project management. The PIR can be prepared any time during the year and ideally prior to the TPC review. The PIR should then be discussed in the TPC meeting so that the result would be a PIR that has been agreed upon by the project, the Implementing Partner, UNDP CO, and the RCU in Panama. The individual PIRs are collected, reviewed, and analyzed by the RCU prior to sending them to the focal area clusters at the UNDP-GEF headquarters. In light of the similarities of both APR and PIR, UNDP-GEF has prepared a harmonized format for reference.

210. **Quarterly Progress Reports** outlining main updates in project progress will be provided quarterly to the local UNDP CO and the UNDP-GEF RCU by the project team. Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform and the risk log should be regularly updated in ATLAS based on the initial risk analysis included in Annex 8.1.

211. **Specific Thematic Reports** focusing on specific issues or areas of activity will be prepared by the project team when requested by UNDP, UNDP-GEF, or the Implementing Partner. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learned exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome

obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

212. A **Project Terminal Report** will be prepared by the project team during the last three (3) months of the project. This comprehensive report will summarize all activities, achievements, and outputs of the project; lessons learned; objectives met or not achieved; structures and systems implemented, etc.; and will be the definitive statement of the project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's activities.

213. **Technical Reports** are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List detailing the technical reports that are expected to be prepared on key areas of activity during the course of the project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive and specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national, and international levels. Technical Reports have a broader function and the frequency and nature is project-specific.

214. **Project Publications** will form a key method of crystallizing and disseminating the results and achievements of the project. These publications may be scientific or informational texts on the activities and achievements of the project in the form of journal articles or multimedia publications. These publications can be based on Technical Reports, depending upon the relevance and scientific worth of these reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and (in consultation with UNDP, the GoG, and other relevant stakeholder groups) will also plan and produce these publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

Independent Evaluation

215. The project will be subjected to at least two independent external evaluations as follows:

216. An independent **Mid-Term Evaluation** will be undertaken at exactly the mid-point of the project lifetime. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency, and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation, and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, ToRs, and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The ToRs for this Mid-Term Evaluation will be prepared by the UNDP-CO based on guidance from the UNDP-GEF RCU. The management response of the evaluation will be uploaded to the UNDP corporate systems, in particular the UNDP Evaluation Resource Center (ERC). All GEF Tracking Tools for the project will also be completed during the mid-term evaluation cycle.

217. An independent **Final Evaluation** will take place three months prior to the terminal Steering Committee meeting, and will focus on the same issues as the Mid-Term Evaluation. The Final Evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP ERC. The ToRs for this evaluation will be prepared by the UNDP-CO based on

guidance from the UNDP-GEF RCU. All GEF Tracking Tools for the project will also be completed during the final evaluation.

Audits

218. The project will be audited in accordance with the UNDP Financial Regulations and Rules and applicable audit policies.

Learning and Knowledge Sharing

219. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition, the project will participate, as relevant and appropriate, in UNDP-GEF sponsored networks, organized for Senior Personnel working on projects that share common characteristics. UNDP-GEF RCU has established an electronic platform for sharing lessons between the project managers. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identify 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 not less frequently than once every twelve (12) months. UNDP-GEF shall provide a format and assist the project team in categorizing, documenting, and reporting on 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 PA and ecotourism management with the current projects of Guatemala's portfolio.

M&E work plan and budget

Type of M&E activity	Responsible Parties	Budget US$*	Time frame
Inception Workshop	• Project Coordinator • UNDP CO • UNDP GEF	2,500 (GEF) 2,000 (CoF)	Within first two months of project start-up
Inception Report	• Project Team • UNDP CO	None	Immediately following IW
Measurement of Means of Verification of project results	• UNDP GEF Regional Technical Advisor/Project Coordinator will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members	To be determined during the initial phase of implementation of the project and the IW.	Start, mid-point, and end of project
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	• Oversight by Project Coordinator • Project Team	No separate M&E cost: to be absorbed within salary and travel costs of project staff	Annually prior to APR/PIR and to the definition of annual work plans
APR and PIR	• Project Coordinator and Team • UNDP-CO • UNDP-GEF	None	Annually
Tripartite Committee Reviews and Reports	• GoG counterparts • UNDP CO • UNDP GEF RCU	None	Annually, upon receipt of APR
Steering Committee/Board Meetings	• Project Coordinator • UNCP-CO • GoG representatives	2,500 (GEF) 3,000 (CoF)	Two times per year

		(1,100 per year)	
Quarterly progress reports	• Project Coordinator and Team	None	Quarterly
Technical reports	• Project Coordinator and Team • Hired consultants as needed	5,000 (GEF) 4,000 (CoF)	To be determined by Project Team and UNDP-CO
Mid-term Evaluation	• Project Coordinator and Team • UNDP- CO • UNDP-GEF RCU • External Consultants (evaluation team)	51,675 (GEF) 8,000 (CoF)	At the mid-point of project implementation
Final Evaluation	• Project Coordinator and Team • UNDP- CO • UNDP-GEF RCU • External Consultants (evaluation team)	62,170 (GEF) 13,000 (CoF)	At least three months before the end of project implementation
Terminal Report	• Project Team • UNDP-CO	2,000 (GEF) 2,000 (CoF)	At least three months before the end of the project
Lessons learned	• Project Coordinator and Team • UNDP-GEF RCU (suggested formats for documenting best practices, etc.)	5,000 (GEF) 4,000 (CoF) (1,800 per year)	Yearly
Audit	• UNDP-CO • Project Coordinator and Team • Auditors	22,000 (GEF) (4,400 per year)	Yearly
Visits to field sites	• UNDP-CO • UNDP-GEF RCU (as appropriate) • GoG representatives	No separate M&E cost: paid from IA fees and operational budget	Yearly
TOTAL INDICATIVE COST (*Excluding project team staff time and UNDP staff and travel expenses)		GEF 152,845 CoF 36,000 **Total 188,845**	

7. LEGAL CONTEXT

220. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement (SBAA) between the GoG and the UNDP (available at http://www.pnud.org.gt/downloads/Acuerdo_MG_Guatemala-PNUD.pdf), signed by the parties on July 20, 1998 and approved by Decree No. 17-2000 (March 29, 2000). The host country implementing agency shall, for the purpose of the SBAA, refer to the government co-operating agency described in that Agreement.

221. The UNDP Resident Representative in Guatemala is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes: a) revision of, or addition to, any of the annexes to the Project Document; b) revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation; c) mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and d) inclusion of additional annexes and attachments only as set out here in this Project Document.

222. This document, together with the CPAP, which was signed by the GoG and UNDP and is incorporated by reference, constitutes a Project Document as referred to in the SBAA. All CPAP provisions apply to this document.

223. Consistent with the Article III of the SBAA, the responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner.

224. The Implementing Partner shall: a) put into place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried out; and b) assume all risks and liabilities related to the Implementing Partner's security and the full implementation of the security plan.

225. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required herein shall be deemed a breach of this agreement.

226. The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism, and that the recipients of any amounts provided by UNDP herein do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

8. ANNEXES

8.1. Risk Analysis

Project Title: Sustainable Forest Management and Multiple Global Environmental Benefits	**Award ID:**	**Date:**

#	Description	Date Identified	Type	Probability and Impact	Countermeasures/ Management Response	Owner	Submitted, Updated By	Last Update	Status
1	Uncertainty of future project support from GoG officials	May 31, 2011 (at PIF)	Political	Enter probability on a scale from 1 (low) to 5 (high) P = 3 Enter impact on a scale from 1 (low) to 5 (high) I = 4	The project, with the support of the UNDP CO, will maintain the interest of government officials by keeping them informed about the project's development and outcomes making use of different resources (e.g., Steering Committee meetings, learning and knowledge sharing processes, and field visits). The strategy of project component 1 includes strengthening coordination mechanisms between key government agencies MARN, CONAP, INAB, MAGA, and ANAM for environmental management, which will contribute to maintaining their support for the project. The project will also take advantage of the great interest in the project and long trajectory of FUNDAECO in the western region of Guatemala to promote SLM and SFM among local officials and communities in the	MARN, UNDP	UNDP	April 10, 2013	Risk continues to persist

					department of Huehuetenango.				
2	Limited government readiness for SFM/REDD	May 31, 2011(at PIF)	Institutional	Enter probability on a scale from 1 (low) to 5 (high) P = 2 Enter impact on a scale from 1 (low) to 5 (high) I = 3	The project will mitigate this risk by strengthening forest governance at the municipal level, including the development of appropriate regulatory frameworks and capacities for management and control. Additionally, the project will provide training on SFM and REDD+ methodologies and access to C markets will provide incentives for the adoption of SFM and the conservation and sustainable use of BD. Additionally, the project will closely coordinate actions with Guatemala's Readiness for REDD+ process (R-PP/FCPF/IADB) to implement activities that will improve SFM/REDD+ readiness.	MARN, UNDP	UNDP	April 10, 2013	Risk continues, although it may decrease as Guatemala 's Readiness for REDD+ progresses .
3	Uncertainty regarding property and land use rights	May 31, 2011(at PIF)	Political	Enter probability on a scale from 1 (low) to 5 (high) P = 3 Enter impact on a scale from 1 (low) to 5 (high) I = 5	In order to reduce the risk related to the lack of clarity regarding property rights and use of forest resources, the project will respect all existing forms and regulations that guarantee those rights, including the customary/traditional rights of the indigenous communities and rights of the local communities to use municipal and communal forests. In those cases where	MARN, Municipalities	MARN, UNDP	April 22, 2013	Risk continues to persist.

					there is little clarity or conflict exists regarding property and use rights, the project will assume a conciliatory approach in order to arrive at the best solution possible for all parties without compromising the achievement of the project's outcomes. Reduction of this risk is particularly critical for achieving the REDD+ pilot project objectives; to reduce this risk the project will have the support of an expert on community conflict prevention and resolution. Legal support regarding rights of ownership over the reduction of GHG emissions in order to receive the pertinent benefits will be provided during an early phase of the REDD+ pilot project implementation to resolve possible conflicts about ownership rights over emissions reductions or the mechanisms to access performance-based payments, particularly in the case of a municipal jurisdictional program that would encompass territory with different situations of ownership and possession of the forests.				
4	Forest damage	May 31,	Environmental	Enter probability on	The risks related to CC may	MARN,	UNDP	April	Risk

	and loss of forest cover due to the effects of CC	2011(at PIF)		a scale from 1 (low) to 5 (high) P = 2 Enter impact on a scale from 1 (low) to 5 (high) I = 2	include very intense summers or torrential rains associated with tropical storms. This could cause deforestation, including changes in plant communities, land coverage due to landslides, and accelerated loss of soils. The project's activities for SFM/SLM will lead to more solid and increased forest coverage as well as healthier forests (e.g., diversity of age groups and increased strength for regeneration) that will make them more resistant to CC. In addition, there will be increased protection of the soils and regulation of hydric cycles that will generate stable microclimatic conditions with benefits for their associated species and forests, as well as a reduction of vulnerability of the human populations to CC. The project will also promote connectivity among forest blocks and conservation areas in the department of Huehuetenango, enhancing BD resilience to CC by increasing species' mobility and providing them with refuge from temperature changes.	UNDP		10, 2013	continues to persist and may increase.
5	Lack of	May 31,	Political	Enter probability on	The Guatemalan legislation	MARN,	UNDP	April	Risk

	engagement /involvement of local stakeholders, including land users	2011(at PIF)		a scale from 1 (low) to 5 (high) P = 2 Enter impact on a scale from 1 (low) to 5 (high) I = 3	(Congress Decree 11-2002 Law for Development Councils, which was passed after the Peace Accords of 1996 that ended a 36-year civil war) requires the participation of local stakeholders in all land use planning processes. The project will ensure that MDCs, which represent the indigenous and non-indigenous populations and the private sector, participate and contribute to local planning processes to be promoted by the project. Additionally, the project will bring multiple benefits to local stakeholders including economic incentives for SFM, technical assistance for sustainable agriculture production, efficient use of firewood, and capacity development, among other benefits, that will encourage and motivate their participation in the project. Finally, the project has designed a stakeholder participation plan through which local stakeholders will be engaged in multiple phases of project execution, including planning, implementation of specific project activities, and monitoring and evaluation.	UNDP		10, 2013	continues to persist
6	FPIC is not	April 10,	Political	Enter probability on	As expressed in Agreement	MARN,	UNDP	April	Risk

	granted by local stakeholders	2013 (At CEO Endorsement)		a scale from 1 (low) to 5 (high) P = 2 Enter impact on a scale from 1 (low) to 5 (high) I = 3	169 of the International Labor Organization (ILO), the principle of "free, prior, and informed consent" (FPIC) applies in cases where indigenous territories will be affected by the project. All project activities that involve indigenous territories will be developed based on the principles of FPIC and in accordance with the conventions of which Guatemala is a signatory, and with the national laws regarding indigenous peoples' and local communities' participation. Additionally, the project will follow all related considerations to be included in the REDD+ National Strategy that is to be developed by the GoG, and which are currently outlined in the R-PP. To obtain the FPIC, the project will build on the local consultations that were developed during the PPG phase, particularly in the department of Huehuetenango where most of the population is indigenous, and will rely on FUNDAECO and INAB, who have long working relationships with the local communities.	UNDP		10, 2013	continues to persist
7	Uncertainty	April 22,	Political	Enter probability on	PINFOR is a tool of the	INAB,	MARN,	April	Risk

	regarding the continuation of the PINFOR beyond 2016	2013 (At CEO Endorsement)		a scale from 1 (low) to 5 (high) P = 3 Enter impact on a scale from 1 (low) to 5 (high) I = 3	National Forest Policy that began operating in 1997 and is valid until 2016. The Board of the INAB is currently drafting a legal proposal for the continuation of the PINFOR beyond 2016. This proposal is expected to be submitted to the Guatemalan Congress for consideration in late 2013. Since the project will be working closely with the INAB, a follow-up of this process will be possible. The project will give priority to the submittal of proposals to the PINFOR during its first two years of implementation to access the related incentives before 2016. In the event that the PINFOR is not extended, the project will continue working with the PINPEP incentive, which will not expire.	UNDP	UNDP	22, 2013	continues to persist

8.2. Terms of Reference for Key Project Staff

The following are the indicative ToRs for the project management staff. The PIU will be staffed by a full-time PC and a part-time Project Administrator/Finance Assistant, and part time secretary all of whom will be nationally-recruited positions. ToRs for these positions will be further discussed with UNDP's CO and will be fine-tuned during the IW so that roles and responsibilities and UNDP GEF reporting procedures are clearly defined and understood. Also, during the IW the ToRs for specific consultants and sub-contractors will be fully discussed and, for those consultancies to be undertaken during the first six months of the project, full ToRs will be drafted and selection and hiring procedures will be defined.

Project Coordinator (PC)

The UNDP CO will hire the PC to carry out the duties specified below, and to provide further technical assistance as required by the project team to fulfill the objectives of the project. He/she will be responsible for ensuring that the project meets its obligations to the GEF and the UNDP, with particular regard to the management aspects of the project, including supervision of staff, serving as stakeholder liaison, implementation of activities, and reporting. The PC will be responsible for the day-to-day management of project activities and the delivery of its outputs. The PC will support and coordinate the activities of all partners, staff, and consultants as they relate to the implementation of the project. The PC will report to the UNDP Project Officer and will be responsible for the following tasks:

Tasks:

- Prepare detailed work plan and budget under the guidance of the SC and UNDP;
- Make recommendations for modifications to the project budget and, where relevant, submit proposals for budget revisions to the SC, and UNDP;
- Facilitate project planning and decision-making sessions;
- Organize the contracting of consultants and experts for the project, including preparing ToRs for all technical assistance required, preparation of an action plan for each consultant and expert, supervising their work, and reporting to the UNDP Project Officer;
- Provide technical guidance and oversight for all project activities;
- Oversee the progress of the project components conducted by local and international experts, consultants, and cooperating partners;
- Coordinate and oversee the preparation of all outputs of the project;
- Foster, establish, and maintain links with other related national and international programs and national projects, including information dissemination through media such as web page actualization, etc.;
- Organize SC meetings at least once every semester as well as annual and final review meetings as required by UNDP, and act as the secretary of the SC;
- Coordinate and report the work of all stakeholders under the guidance of UNDP;
- Prepare PIRs/APRs in the language required by the GEF and the UNDP's CO and attend annual review meetings;
- Ensure that all relevant information is made available in a timely fashion to UNDP regarding activities carried out nationally, including private and public sector activities, which impact the project;
- Prepare and submit quarterly progress and financial reports to UNDP as required, following all UNDP quality management system and internal administrative process;
- Coordinate and participate in M&E exercises to appraise project success and make recommendations for modifications to the project;
- Prepare and submit technical concepts and requirements about the project requested by UNDP, the GoG, or other external entities;
- Perform other duties related to the project in order to achieve its strategic objectives;
- Ensure the project utilizes best practices and experiences from similar projects;

- Ensure the project utilizes the available financial resources in an efficient and transparent manner;
- Ensure that all project activities are carried out on schedule and within budget to achieve the project outputs;
- Solve all scientific and administrative issues that might arise during the project;
- Provide technical support for development of an interagency agreement for cooperation, updating of the PROANDYS, and development of a municipal-level GIS-based mapping tool to assess SFM and SLM benefits (Component 1);
- Development of SFM/SLM plans for two (2) watersheds and provide technical support for SFM/SLM plan implementation, and of development plans for up to fifteen (15) municipalities to incorporate SFM/REDD+ and SLM principles (Component 2).

Outputs:

- Detailed work plans indicating dates for deliverables and budget;
- Documents required by the control management system of UNDP;
- ToRs and action plan of the staff and monitoring reports;
- List of names of potential advisors and collaborators and potential institutional links with other related national and international programs and national projects;
- Quarterly reports and financial reports on the consultant's activities, all stakeholders' work, and progress of the project to be presented to UNDP (in the format specified by UNDP);
- A final report that summarizes the work carried out by consultants and stakeholders during the period of the project, as well as the status of the project outputs at the end of the project;
- Minutes of meetings and/or consultation processes;
- Yearly PIRs/APRs;
- Adaptive management of project.
- SFM/SLM plans for two (2) watersheds: Ayarza Lagoon and upper and mi sections of the Ostúa River;
- Development plans for up to 15 municipalities in the southeastern region incorporating SFM/REDD+ and SLM principles and their implementing measures
- Field visits to PAs to provide technical support for the piloting of the gate and concession fees system and monitoring reports.

All documents are to be submitted to the UNDP Project Officer and in MS Word and in hard copy.

Qualifications (indicative):

- A graduate academic degree in areas relevant to the project (e.g., SFM, SLM, CC mitigation, and BD conservation);
- Minimum 5 years of experience in project management with at least 3 years of experience in at least two areas relevant to the project (e.g., SFM, SLM, CC mitigation, and BD conservation);
- Experience facilitating consultative processes, preferably in the field of natural resource management;
- Proven ability to promote cooperation between and negotiate with a range of stakeholders, and to organize and coordinate multi-disciplinary teams;
- Strong leadership and team-building skills;
- Self-motivated and ability to work under the pressure;
- Demonstrable ability to organize, facilitate, and mediate technical teams to achieve stated project objectives;
- Familiarity with logical frameworks and strategic planning;
- Strong computer skills;
- Flexible and willing to travel as required;
- Excellent communication and writing skills in Spanish and English;

- Previous experience working with a GEF-supported project is considered an asset.

Project Administrator/Finance Assistant

The Project Administrator/Finance Assistant is responsible for the financial and administrative management of the project activities and assists in the preparation of quarterly and annual work plans and progress reports for review and monitoring by UNDP. The Project Administrator/Finance Assistant will have the following responsibilities:

- Responsible for providing general financial and administrative support to the project;
- Take own initiative and perform daily work in compliance with annual work schedules;
- Assist project management in performing budget cycle: planning, preparation, revisions, and budget execution;
- Provide assistance to partner agencies involved in project activities, performing and monitoring financial aspects to ensure compliance with budgeted costs in line with UNDP policies and procedures;
- Monitor project expenditures, ensuring that no expenditure is incurred before it has been authorized;
- Assist project team in drafting quarterly and yearly project progress reports concerning financial issues;
- Ensure that UNDP procurement rules are followed during procurement activities that are carried out by the project and maintain responsibility for the inventory of the project assets;
- Perform preparatory work for mandatory and general budget revisions, annual physical inventory and auditing, and assist external evaluators in fulfilling their mission;
- Prepare all outputs in accordance with the UNDP administrative and financial office guidance;
- Ensure the project utilizes the available financial resources in an efficient and transparent manner;
- Ensure that all project financial activities are carried out on schedule and within budget to achieve the project outputs;
- Perform all other financial related duties, upon request

Qualifications and skills:

- At least an Associate's Degree in finance, business sciences, or related fields;
- Experience in administrative work, preferably in an international organization or related to project implementation;
- A demonstrated ability in the financial management of development projects and in liaising and cooperating with government officials, NGOs, etc.;
- Self-motivated and ability to work under the pressure;
- Team-oriented, possesses a positive attitude, and works well with others;
- Flexible and willing to travel as required;
- Excellent interpersonal skills;
- Excellent verbal and writing communication skills in Spanish and English;
- Good knowledge of Word, Outlook, Excel, and Internet browsers is required;
- Previous experience working with a GEF-supported project is considered an asset.

Secretary

This position provides support to the PC for the day-to-day management of the project and secretarial or assistance functions. The Project Administrator/Finance Assistant will have the following responsibilities:

- Assist the PC in all project implementation activities;
- Make logistical arrangements for the organization of meetings, consultation processes, and media;

- Provide secretarial support for the project staff;
- Draft contracts for international/local consultants and all project staff, in accordance with instructions by the Contracts Office at UNDP;
- Draft agreements for entities related to the project, in accordance with instructions by the Contracts Office at UNDP;
- Draft correspondence related to assigned project areas; provide clarification, follow up, and responses to requests for information;
- Assume overall responsibility for administrative matters of a more general nature, such as registry and maintenance of project files;
- Provide support to the PC and project staff in the coordination and organization of planned activities and their timely implementation;
- Assist the PC in liaising with key stakeholders from the GoG counterpart, co-financing agencies, civil society, and NGOs, as required;
- Ensure the proper use and care of the instruments and equipment used on the project;
- Ensure the project utilizes the available administrative resources in an efficient and transparent manner;
- Ensure that all project administrative activities are carried out on schedule and within budget to achieve the project outputs;
- Resolve all administrative and support issues that might arise during the project.
- Provide assistance in all logistical arrangements concerning project implementation;
- Perform all other administrative duties, upon request;

Qualifications and skills:

- Demonstrated experience in administrative work, preferably in an international organization or related to project implementation;
- Self-motivated and ability to work under the pressure;
- Team-oriented, possesses a positive attitude, and works well with others;
- Flexible and willing to travel as required;
- Excellent interpersonal skills;
- Excellent verbal and writing communication skills in Spanish and English;
- Good knowledge of Word, Outlook, Excel, and Internet browsers is required;
- Previous experience working with a GEF-supported project is considered an asset.

8.3. Stakeholder Involvement Plan

Stakeholder Participation during Project Preparation

During the PPG phase of the project, key stakeholders participated in planning and project design workshops and several smaller focus group sessions and meetings. These participatory forums were the following: a) PPG phase inception workshop and b) project Results Framework Workshop. Additionally, multiple individual meetings and consultations with key national and local stakeholders were held during the PPG phase by the project team, UNDP CO, and staff from the MARN and FUNDAECO. Descriptions of the PPG phase workshops are presented below.

Inception Workshop of the PPG Phase. The Inception Workshop was held on August 16, 2012 in Guatemala City. The objectives of this workshop were to: a) help the PPG project team and other stakeholders to understand and take ownership of the project goals and objectives, b) ensure that the project team and other stakeholders have a clear understanding of what the PPG phase seeks to achieve as well as their own roles in successfully carrying out the PPG activities, c) re-build commitment and momentum among key stakeholders (including potential project co-financers) for the PPG phase, and d) validate the PPG Work Plan.

The participants in the PPG Phase Inception Workshop included staff from the MARN, CONAP, FUNDAECO, UNDP CO, and the PPG project team.

Project Results Framework Workshop. The Results Framework Workshop was held on October 3-4, 2012 in Guatemala City. The objectives of this workshop were to: a) define the Results Framework, including the revised project outputs, indicators, baseline information, goals, verification mechanisms, and assumptions; b) preliminary definition of the project's activities for each outcome/output; c) define a preliminary budget for the project, including the co-financing; and d) update the PPG phase Work Plan.

The participants in the PPG Phase Inception Workshop included staff from the MARN, CONAP, FUNDAECO, INAB, MAGA, UNDP CO, and the PPG project team.

Stakeholder Participation Plan for the Project Implementation Phase

Objectives of the Stakeholder Participation Plan: The formulation of the stakeholder participation plan had the following objectives: a) to clearly identify the basic roles and responsibilities of the main participants in this project, b) to ensure full knowledge of those involved concerning the progress and obstacles in project development and to take advantage of the experience and skills of the participants to enhance project activities, and c) to identify key instances in the project cycle where stakeholder involvement will occur. The ultimate purpose of the stakeholder participation plan will be the long-term sustainability of the project achievements, based on transparency and the effective participation of the key stakeholders.

During the PPG phase, visits were conducted by the project team and MARN staff to the southeastern region (departments of Jalapa, Jutiapa, and Santa Rosa) and the western region (department of Huehuetenango) to involve the local stakeholders early on in the project design process and to identify potential partnerships with local groups, including the prioritized municipalities, for effective participatory planning and management.

Summary of Stakeholder Roles in Project Implementation:

Stakeholders	Project Implementation Role
Ministry of the Environment and Natural Resources (MARN)	The MARN is the technical focal point of the GEF. It is charged with formulating and carrying out environmental policies in Guatemala. It will guide the actions for SLM, BD conservation, and mitigation and/or adaptation to CC. MARN's Climate Change Unit serves as the technical representative to the UNFCCC for the GoG, providing technical and management guidance with regard to climate change. The MARN will provide follow-up and technical orientation to the activities related to SFM/REDD+ and CC.
National Protected Areas Council (CONAP)	CONAP is the focal point of the CBD. It will play a central role in developing policies/strategies for SFM, SLM, and forest and BD conservation.
National Forest Institute (INAB)	INAB is the entity charged with the execution and promotion of forestry policies in Guatemala. It will facilitate access to technical support, technology, and services for SFM to municipalities and other stakeholders.
Ministry of Agriculture Livestock and Food (MAGA)	MAGA is charged with developing and executing the policy for the development of agriculture and the sustainable use of natural renewable resources and their services. It will promote the project's activities for SLM and LULUCF.
Secretary of Planning for the Presidency (SEGEPLAN)	SEGEPLAN is responsible for contributing to the development of general policy for the GoG, as well as monitoring and evaluating compliance. It is responsible for the validation of the project on behalf of the GoG.
Municipalities	The municipalities are responsible for the sustainable management of natural resources within their jurisdictions, in coordination with the institutions charged with developing environmental regulations. The municipalities are organized nationally under the ANAM.
Local communites	Local communities will implement BMPs for the existing forest, as well as for agricultural production practices, to improve soil productivity, maintain forest coverage, and conserve

Stakeholders	Project Implementation Role
	BD. They will be the beneficiaries of training, technical assistance, and economic incentives for implementing SLM and SFM.
Municipal Development Councils (COMUDES) and Community Development Councils (COCODES)	The COMUDES and COCODES, which represent local communities (indigenous and non-indigenous), will participate in decision-making processes regarding SFM/SLM and BD conservation. The COMUDES are formed by the Municipal Mayor, Trustees, Councilors, and the representatives of the COCODES. The COCODES are the community structures created to increase the participation of community members in development planning and governance at the local level. As they are composed of community leaders, their role will be to serve as a liaison between the community and the other stakeholders to ensure good communication and collaboration to benefit the project.
Private sector and CSOs	The private sector will be represented through the involvement in the project of Gautemala's Forestry Union, a non-profit organization that promotes the cultivation and sustainable management of forests in the country. In the southeastern region it is represented by the Foresters Association of Jalapa (ASILJA). CSOs from the western region participating in the project include: a) ICUZONDEHUE, whose objective is to promote the integrated sustainable development among its members and the conservation of natural resources. They will form part of the Conservation Agreement for the pilot site in the Huehuetenango region; b) ASILVOCHANCOL, whose objective is to support the strengthening of the organization to generate economic and environmental benefits for it members through the rational and sustainable use of the forest, soil, and water. They will form part of the Conservation Agreement for the pilot site in the Huehuetenango region; and c) ASOCUCH, which represents 12 cooperatives, 9 associations, and 10 groups of entrepreneurial women in the Sierra de los Cuchumatanes. They will participate in the negotiation of BD/forest conservation agreements.
Fundación para el Ecodesarrollo y la Conservación (FUNDAECO)	FUNDAECO has 22 years of experience promoting and managing protected areas. This NGO promotes land and BD conservation, as well as the empowerment, participation, and integration of and by the community. It will carry out activities for the conservation of forests and BD in the department of Huehuetenango (pilot 2).
Foundation of Integrated Development of Men and the Environment (CALMECAC)	CLAMECAC is an NGO working in the conservation and sustainable management of natural resources in the southeastern region of Guatemala, with the participation of local communities. It will contribute to the implementation of PINFOR and PINPEP incentives and is a co-financer of the project.
Inter-American Development Bank (IADB)	The IADB will provide support as a responsible Party of the FCPF to the GoG in developing the platform for the REDD+ through the implementation of the FCPF's R-PP. The project team will ensure that project activities are consistent with national REDD+ developments undertaken under the R-PP.
German Development Bank (KfW)	The KfW will be one of the project's co-financiers. The project team and the MARN will establish close collaboration with KfW, in order to establish complementarities and to maximize efforts within the framework of activities programmed by the MARN for the dry region of the southeast financed KfW.
United Nations Development Programme (UNDP)	The UNDP is the Project's Implementing Agency and will be responsible for overall project implementation through the DIM Modality. It will provide guidance, institutional support, and technical and administrative assistance, as well as theoretical and practical knowledge at the national level and for the effective implementation of the project.

Participation Mechanisms: Three key phases for stakeholders' participation have been identified for the implementation phase of the project: planning, implementation, and evaluation. **Project planning** will include annual meetings with key PA stakeholders (including members of the SC) during which annual goals will be set for each component of the project. These annual planning meetings will also serve to specify the activities that are to be funded through each co-financing source. **Project implementation** will take place according to the annual plans that are approved by the SC, which will be formed by the

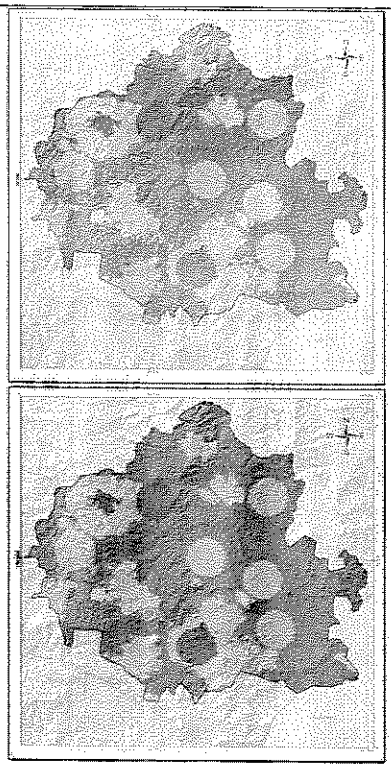
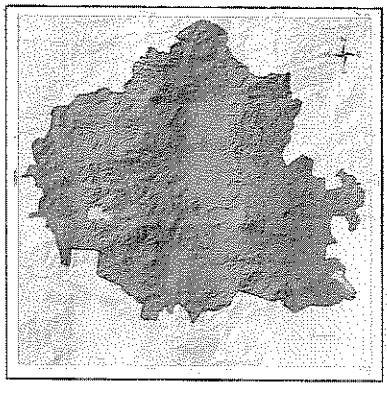
following agencies: MARN, CONAP, MAGA, and INAB, and the UNDP CO. The UNDP CO will be the Executing Agency. Local stakeholders will have an additional mechanism to influence the project through a LSC, which will consist of appointed members, and whose composition, responsibilities, and function will be determined by the stakeholders themselves. **Project evaluation** will occur annually with the participation of key stakeholders at the end of each planning year and previous to defining the annual plan for the following year of project implementation. Also, **Mid-term and final evaluations** will be carried out as part of the project cycle. Due to the independent nature of these evaluations, they will be key moments during the project's life when stakeholders can express their views, concerns, and assess whether the project's outcomes are being achieved and if necessary, define the course of correction.

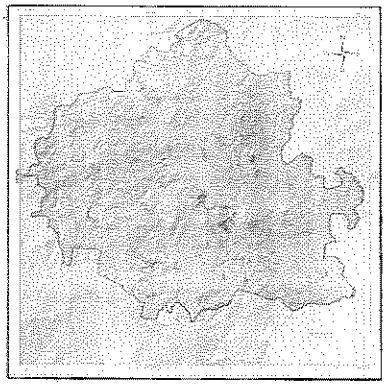
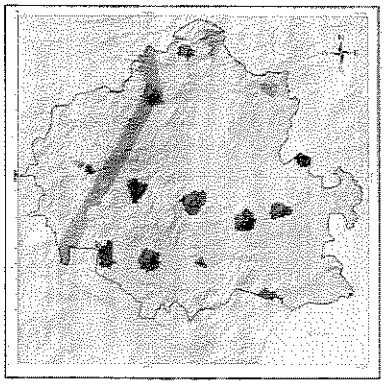
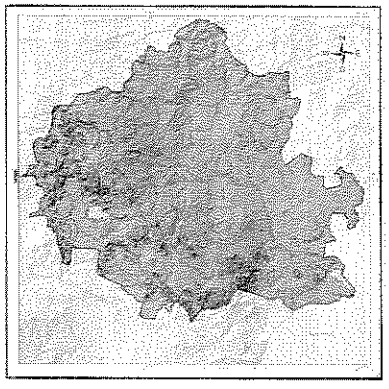
8.4. Tracking Tool

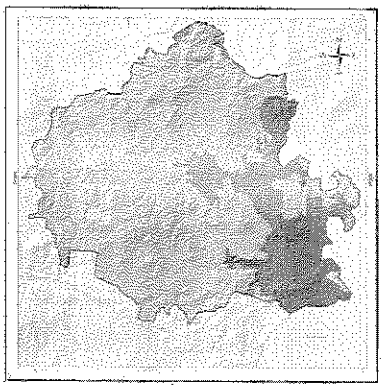
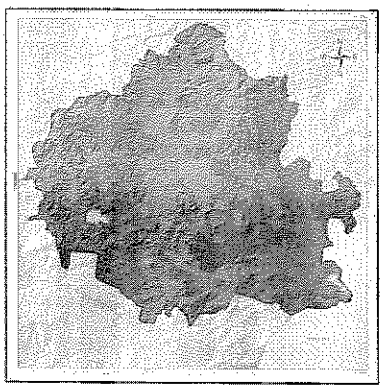
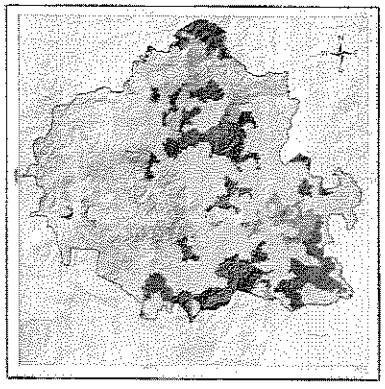
The tracking tools related with project (BD, CC. LD, and SFM/REDD+) are included in separate files.

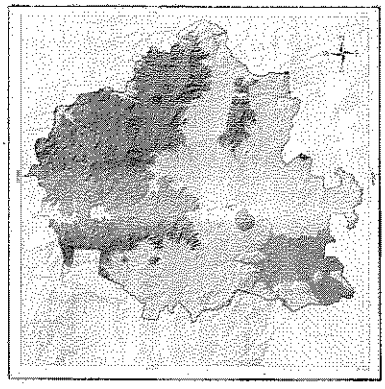
8.5. Selection of Prioritized Areas

The prioritization of municipalities in the southeastern region was done using spatial analysis (ArcGIS 9.2.8: Weighted Sum/Spatial Analyst) with population, forest cover, forest fire, conservation area, erosion potential, life zone, intensity of land use, land use, and slope data. The process is illustrated below.

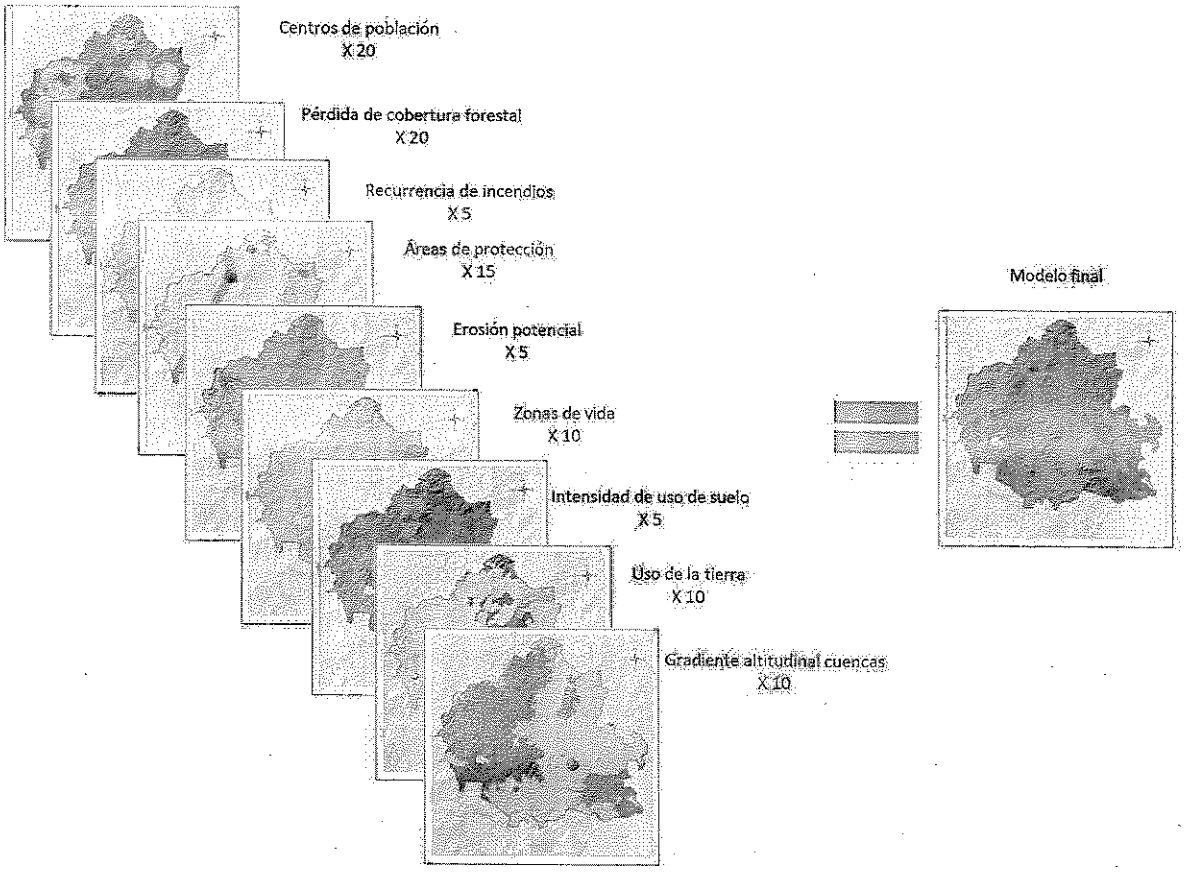
Data Layer	Layer Used	Weighting factor	Classification (value of designated fields)	Information Source	Data Format	Processing Format
Population centers: Modification performed on the layer of inhabitants in population centers, with valuation of major population areas		20	High: 1 Medium: 0.66 Low: 0.33	IGN Census, 2002	Shapefile	RASTER
Loss of forest cover: Extraction of areas with loss of forest coverage registered between 2006 and 2010		20	Loss: 1 Others: 0	INAB, CONAP, URL, UVG, MARN, 2012	RASTER	RASTER

Recurrence of forest fires: Modification performed based on the layer from the SIGMA project of frequency of forest fires at the national scale		5	Not registered: 0 1 to 3 fires: 0.33 3 to 5 fires: 0.66 More than 5 fires: 1.00	SIGMA project, 2009	RASTER	RASTER
Conservation areas: Based on the layer of protected areas and conservation gaps performed by CONAP		15	Protected areas and important species: 1 NISP portfolio: 0.66 NISP corridors: 0.33 Others: 0	NISP project, CONAP 2007 Protected areas, CONAP, 2012	Shapefile	RASTER
Erosion potential: Selection of areas with high or medium erosion based on the erosion layer produced by MAGA		5	High erosion: 1 Medium erosion: 0.5 Low erosion or no erosion: 0	MAGA, 2002	Shapefile	RASTER

Life zones: Selection of life zones prioritized in the project, based on the life zones defined by MAGA		10	Prioritized zone: 1 Non-prioritized zone: 0	MAGA, 2002	Shapefile	RASTER
Soil use intensity: Selection of areas that were registered as overused in the soil use intensity layer from MAGA		5	Overused: 1 Others: 0	MAGA, 2002	Shapefile	RASTER
Land use: Selection and valuation of areas with wetlands and scrub lands, as well as those with secondary forest, with forest, and with other uses		10	Scrublands and wetlands: 1 Secondary forest: 0.66 Forest: 0.33 Other uses: 0	MAGA, 2003	Shapefile	RASTER

Altitudinal gradient in watersheds: Using a digital elevation model, the high, medium, and low sections were defined. Altitudinal gradients used: 0-500, 500-1200, 1200-and above		10	High: 1 Medium: 0.5 Low: 0	MAGA, 2003	RASTER	RASTER

Weighted sum method for the prioritization of project area in the southeastern region.


Centros de población
X 20
Pérdida de cobertura forestal
X 20
Recurrencia de incendios
X 5
Áreas de protección
X 15
Erosión potencial
X 5
Zonas de vida
X 10
Intensidad de uso de suelo
X 5
Uso de la tierra
X 10
Gradiente altitudinal cuencas
X 10
Modelo final

The prioritization of municipalities in the western region (Department of Huehuetenango) used as a criterion of their importance for BD conservation. Within the 5 municipalities selected, a further prioritization was done using Life Zones data (IARNA-URL in 2011). Final selection includes high elevation areas with predominance of Very Humid Tropical Montane Forest (bmh-MT) and mid elevation areas with predominance of Humid Lower Tropic Montane Forest (bh-MBT); these are shown below.

8.6. VCS methodology VM0015[25]

The methodology proposed for the two REDD+ pilot projects is VCS methodology VM0015. This methodology was developed on behalf of the World Bank (BioCarbon Fund) and the Brazilian Foundation for Sustainable Amazonas (FAS) and the experience in the Tierras Bajas del Norte has proven that this methodology is applicable in Guatemala. VM0015 is for estimating and monitoring GHG emissions of project activities that avoid unplanned deforestation (AUD), which is the main category of activities generating GHG emissions in the two regions envisioned for the pilot REDD+ projects. It also gives the option to account for carbon stock enhancements in degraded forests that would be deforested in the baseline case. Credits for reducing GHG emissions from avoided degradation, however, are excluded in this methodology because VCS considers the avoidance of emissions from degradation as a different category of activity (requiring different types of carbon accounting methodologies).

The methodology has no geographic restrictions and is applicable globally under the following conditions:

a) Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU guidelines.
b) Project activities may include one or a combination of the eligible categories defined in Table 1 below.
c) The project area can include different types of forest, such as, but not limited to, old-growth forest, degraded forest, secondary forests, planted forests, and agro-forestry systems meeting the definition of "forest."
d) At project commencement, the project area shall include only land qualifying as "forest" for a minimum of 10 years prior to the project start date.
e) The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat is defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes forested wetlands growing on peat (e.g. peat swamp forests), the methodology would not be applicable in that area.

Scope of the proposed methodology

			PROJECT ACTIVITY	
			Protection without logging, fuel wood collection or charcoal production	Protection with controlled logging, fuel wood collection or charcoal production
BASELINE	Deforestation	Old-growth without logging	**A**	**B**
		Old-growth with logging	**C**[1]	**D**[1]
		Degraded and still degrading	**E**[1]	**F**[1]
		Secondary growing	**G**[1]	**H**[1]
	No-deforestation[2]	Old-growth without logging	No change	Degradation
		Old-growth with logging	IFM	IFM-RIL
		Degraded and still degrading	IFM	IFM

[25] Most of the text presented in this section has been copied from the summary description of VM0015, which is available at www.v-c-s.org.

	Secondary growing	No change	Degradation

1. Accounting for carbon stock increase in the project scenario is optional and can conservatively be omitted in the proposed methodology.
2. If the baseline is not deforestation, the change in carbon stocks is not covered in the methodology.

The methodology requires the use of existing deforestation baselines if these meet the applicability criteria of the methodology. If no such applicable sub-national or national baseline is available, the national (or sub-national) government must be consulted to determine whether the country has been divided in spatial units for which deforestation baselines will be developed. If such divisions exist (as in the case of Guatemala) and are endorsed by the national (or sub-national) government, they must be used to determine the boundary of the reference region.

Leakage in the proposed methodology is subject to monitoring, reporting, verification, and accounting. However, if the project area is located within a broader sub-national or national region that is subject to MRV of GHG emissions from deforestation under a VCS or UNFCCC registered (and VCS endorsed) program (= "jurisdictional program"), leakage may be subject to special provisions because any change in carbon stocks or increase in GHG emissions outside the project area would be subject to MRV under the broader jurisdictional program. In such cases, the most recent VCS requirements on JNR shall be applied.

The methodology also defines four spatial domains: a broad "reference region," the "project area," a "leakage belt," and a "leakage management area." The project area, leakage belt and leakage management areas are subsets of the reference region and are always spatially distinct (not overlapping) areas.

- The "reference region" is the analytical domain from which information on historical deforestation is extracted and projected into the future to spatially locate the area that will be deforested in the baseline case. In the case of Guatemala, the reference region may be one of the sub-national regions shown in Figure 2.
- The "project area" is the area (or areas) under the control of the project participants in which the AUD project activity will be implemented and GHG emission reductions accounted.
- The "leakage belt" is the area where any deforestation above the baseline projection will be considered leakage. It must be defined only if MRV for leakage is required.
- The "leakage management area" is the area (or areas) specifically designed to implement activities that reduce the risk of activity displacement leakage. These are areas dedicated to enhanced crop-land and grazing land management, agro-forestry, silvopastoral activities and reforestation activities. At the project start date, leakage management areas shall be non-forest land.

The baseline projections, according to VM0015 and the current version of the VCS standard, must be revisited every 10 years and adjusted, as necessary, based on land-use and land-cover changes observed during the past period and changes at the level of agents, driver and underlying causes of deforestation, which are subject to monitoring. The period of time during which a validated baseline must not be reassessed is called "fixed baseline period" in VM0015.

The boundary of the leakage belt must be revisited at the end of each fixed baseline period and any time when an AFOLU project located in the project's leakage belt area is registered under the VCS. In such case, the project area of the new AFOLU project must be excluded from the leakage belt area from the

date of its registration[26]. Changes in the leakage belt boundary must be monitored and are subject to VCS verification.

Emissions of non-CO_2 gases in the baseline are conservatively omitted, except CH_4 emissions from biomass burning, which can be counted when fire is the main technology used to deforest and when the project proponent considers that ignoring this source of emissions would substantially underestimate the baseline emissions. However, CH_4 emissions from forest fires in the project case must be accounted when they are significant.
If leakage must be estimated and accounted, then the methodology considers two potential sources of leakage:

(i) If more deforestation in the leakage belt area is observed during project implementation, this will be considered as activity displacement leakage, and the decrease in carbon stocks and increase of GHG emissions (if emissions from forest burning are included in the baseline) must be subtracted in the calculation of the project's net anthropogenic GHG emissions reductions.

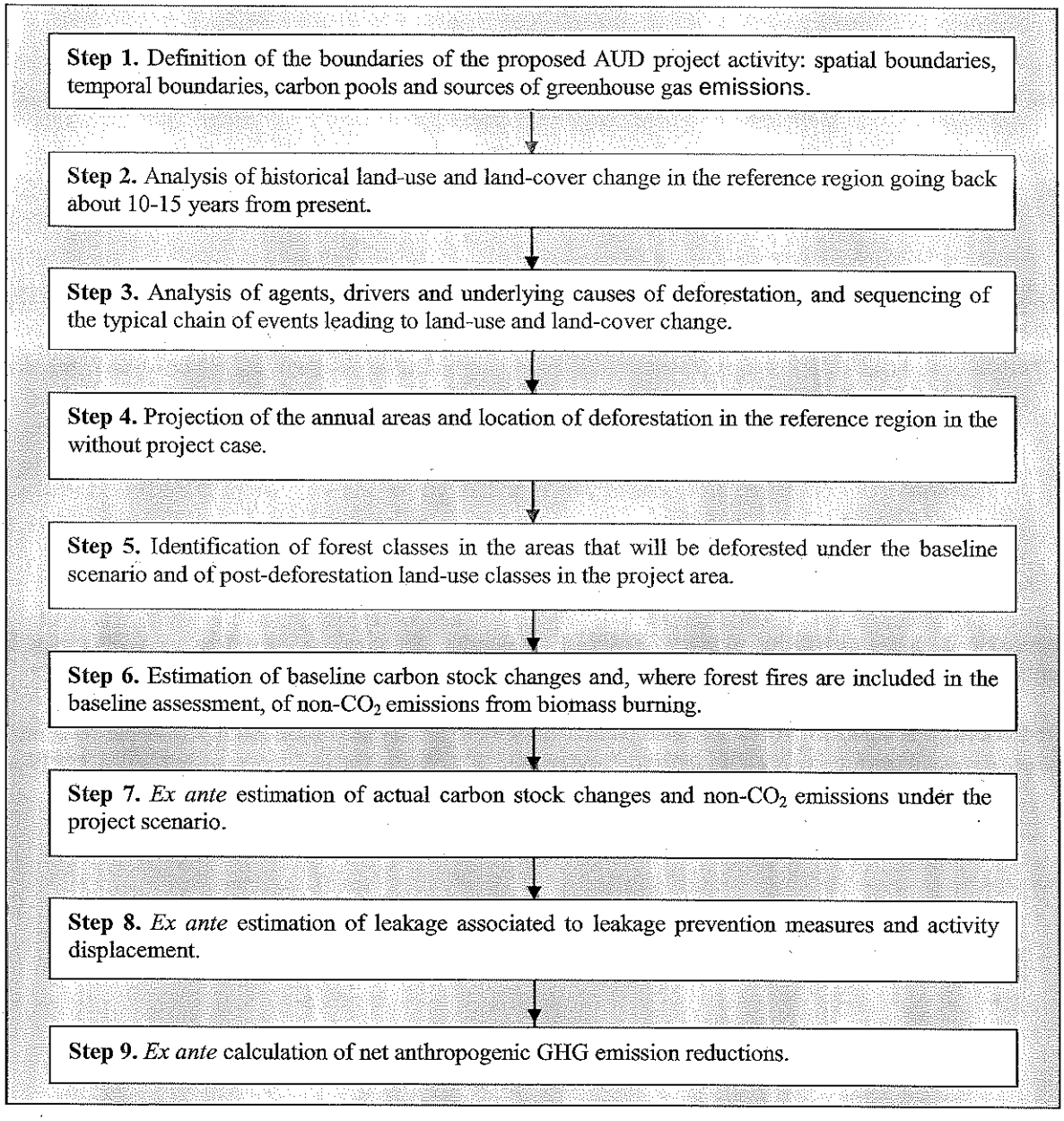
(ii) If leakage prevention measures include tree planting, agricultural intensification, fertilization, fodder production and/or other measures to enhance cropland and grazing land areas in leakage management areas, then any decrease in carbon stocks and increase in GHG emissions associated with these activities is estimated and subtracted in the calculation of the project's net anthropogenic emissions reductions.

Any decrease in carbon stock or increase in GHG emissions attributed to the project activity must be accounted when it is significant, otherwise it can be neglected.

The methodology VM0015 involves nine steps that must be implemented sequentially in order to bring a project to successful validation and registration under the VCS. These are summarized in Figure 3 below.

[26] This is to avoid double counting of emissions when a new VCS AFOLU registered project and/or its leakage belt are located (partially or totally) in the leakage belt of the proposed AUD project.

Steps of the proposed methodology (Source: VCS, VM0015)



8.7. REDD+ pilot project sites and expected REDD+ benefits

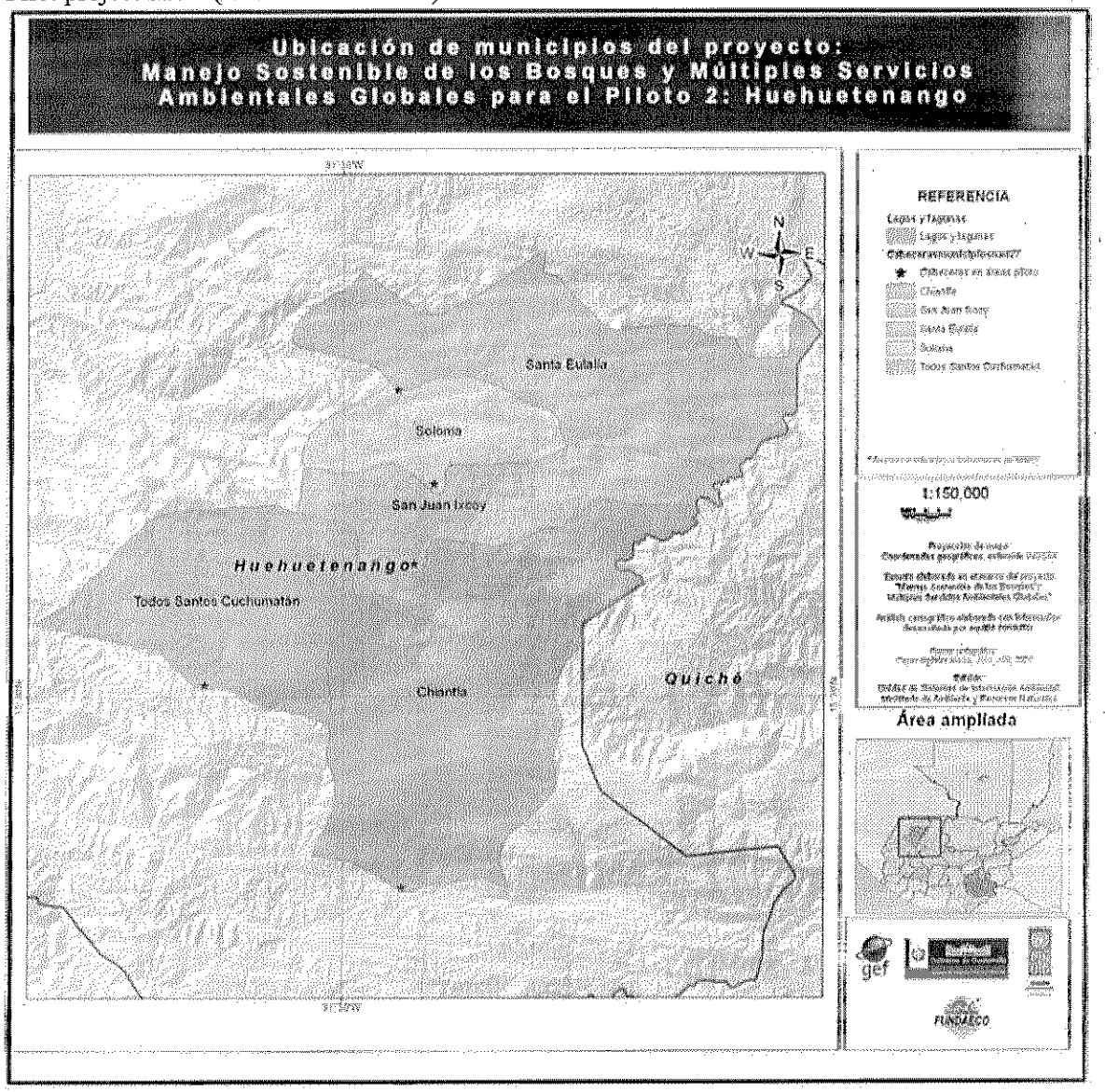
Pilot project site 1 (southeastern Guatemala).

Projected carbon benefits of pilot project 1 over a 30-year period (forest cover and deforestation rates estimated based on *Mapa de Cobertura Forestal de Guatemala 2001-2006 [INAB]* and *Mapa de Cobertura Forestal de Guatemala 2006-2010 [INAB]*).

Year	Baseline					Scenario with project					Project benefits			Leaks		Net emissions reduction		Carbon credits		
	Forest area	Deforestation rate	Projected deforestation without project	Projected emissions without project		Forest area	Deforestation rate	Projected deforestation with project	Projected emissions with project		Avoided deforestation	Projected emission reduction with project		% change in emissions reduction in the project area	Emissions with project	With project		Credits VCS AFOLU Buffer	Debits VCS AFOLU Buffer	VCUs
	ha	%	ha/year	tCO_2-e/year	tCO_2-e	ha	%	ha/year	tCO_2-e/year	tCO_2-e	ha	tCO_2-e/year	tCO_2-e	%	tCO_2-e/year	tCO_2-e/year	tCO_2-e	tCO_2-e	tCO_2-e	tCO2-e
2010	21,703.50	-7.00%			-	21,703.50			-	-	-	-	-	0%		0	-			
2011	20,183.89	-7.00%	-1,519.61	365,946	365,946	20,183.89	-7.00%	-1,519.61	365,946	365,946	-	-	-	0%	-	0	-			
2012	18,770.69	-7.00%	-1,413.21	340,324	706,270	18,770.69	-7.00%	-1,413.21	340,324	706,270	-	-	-	0%	-	0	-			
2013	17,456.43	-7.00%	-1,314.26	316,495	1,022,765	17,456.43	-7.00%	-1,314.26	316,495	1,022,765	-	0	0	0%	-	0	0			
2014	16,234.19	-7.00%	-1,222.24	294,335	1,317,100	16,234.19	-7.00%	-1,222.24	294,335	1,317,100	-	0	0	0%	-	0	0			
2015	15,097.52	-7.00%	-1,136.66	273,727	1,590,827	15,779.52	-2.80%	-454.67	109,491	1,426,591	682.00	-164,236	-164,236	10%	16,424	-147,813	-147,813			
2016	14,040.45	-7.00%	-1,057.08	254,562	1,845,389	15,356.69	-2.68%	-422.83	101,825	1,528,416	1,316.24	-152,737	-316,973	10%	15,274	-137,463	-285,276			
2017	13,057.38	-7.00%	-983.06	236,738	2,082,127	14,963.46	-2.56%	-393.23	94,695	1,623,111	1,906.08	-142,043	-459,016	10%	14,204	-127,839	-413,114	165,246		247,869
2018	12,143.15	-7.00%	-914.2	220,162	2,302,289	14,597.77	-2.44%	-365.7	88,065	1,711,176	2,454.62	-132,097	-591,113	10%	13,210	-118,888	-532,002			
2019	11,292.93	-7.00%	-850.2	204,747	2,507,037	14,257.68	-2.33%	-340.1	81,899	1,793,075	2,964.76	-122,848	-713,962	10%	12,285	-110,564	-642,566	91,781		137,671
2020	10,502.23	-7.00%	-790.7	190,412	2,697,448	13,941.41	-2.22%	-316.3	76,165	1,869,240	3,439.17	-114,247	-828,209	10%	11,425	-102,822	-745,388			
2021	9,766.90	-7.00%	-735.3	177,080	2,874,528	13,647.27	-2.11%	-294.1	70,832	1,940,071	3,880.37	-106,248	-934,457	10%	10,625	-95,623	-841,011	79,378	38,554	157,621
2022	9,083.06	-7.00%	-683.8	164,681	3,039,209	13,373.73	-2.00%	-273.5	65,872	2,005,944	4,290.68	-98,809	-1,033,265	10%	9,881	-88,928	-929,939			
2023	8,447.09	-7.00%	-636.0	153,151	3,192,360	13,119.35	-1.90%	-254.4	61,260	2,067,204	4,672.26	-91,890	-1,125,156	10%	9,189	-82,701	-1,012,640	68,652		102,978
2024	7,855.66	-7.00%	-591.4	142,428	3,334,788	12,882.77	-1.80%	-236.6	56,971	2,124,175	5,027.12	-85,457	-1,210,613	10%	8,546	-76,911	-1,089,551			
2025	7,305.63	-7.00%	-550.0	132,455	3,467,243	12,662.76	-1.71%	-220.0	52,982	2,177,157	5,357.13	-79,473	-1,290,086	10%	7,947	-71,526	-1,161,077	59,375		89,062
2026	6,794.11	-7.00%	-511.5	123,181	3,590,424	12,458.16	-1.62%	-204.6	49,273	2,226,430	5,664.04	-73,909	-1,363,994	10%	7,391	-66,518	-1,227,595			
2027	6,318.41	-7.00%	-475.7	114,557	3,704,981	12,267.88	-1.53%	-190.3	45,823	2,272,253	5,949.46	-68,734	-1,432,728	10%	6,873	-61,861	-1,289,456	51,351	63,882	140,909
2028	5,876.02	-7.00%	-442.4	106,536	3,811,517	12,090.92	-1.44%	-177.0	42,614	2,314,867	6,214.90	-63,921	-1,496,650	10%	6,392	-57,529	-1,346,985			
2029	5,464.60	-7.00%	-411.4	99,076	3,910,593	11,926.35	-1.36%	-164.6	39,631	2,354,497	6,461.75	-59,446	-1,556,096	10%	5,945	-53,501	-1,400,486	44,412		66,618
2030	5,081.99	-7.00%	-382.6	92,139	4,002,732	11,773.31	-1.28%	-153.0	36,856	2,391,353	6,691.32	-55,284	-1,611,379	10%	5,528	-49,755	-1,450,241			
2031	4,726.16	-7.00%	-355.8	85,688	4,088,421	11,630.98	-1.21%	-142.3	34,275	2,425,628	6,904.81	-51,413	-1,662,792	10%	5,141	-46,272	-1,496,513	38,411		57,616
2032	4,395.25	-7.00%	-330.9	79,689	4,168,109	11,498.61	-1.14%	-132.4	31,875	2,457,504	7,103.36	-47,813	-1,710,605	10%	4,781	-43,032	-1,539,545			
2033	4,087.51	-7.00%	-307.7	74,109	4,242,218	11,375.52	-1.07%	-123.1	29,644	2,487,147	7,288.00	-44,465	-1,755,071	10%	4,447	-40,019	-1,579,564	33,220	74,425	124,256
2034	3,801.32	-7.00%	-286.2	68,920	4,311,138	11,261.04	-1.01%	-114.5	27,568	2,514,715	7,459.72	-41,352	-1,796,423	10%	4,135	-37,217	-1,616,781			
2035	3,535.16	-7.00%	-266.2	64,095	4,375,233	11,154.58	-0.95%	-106.5	25,638	2,540,353	7,619.41	-38,457	-1,834,880	10%	3,846	-34,611	-1,651,392	28,731		43,097
2036	3,287.64	-7.00%	-247.5	59,607	4,434,840	11,055.57	-0.89%	-99.0	23,843	2,564,196	7,767.93	-35,764	-1,870,644	10%	3,576	-32,188	-1,683,579			
2037	3,057.45	-7.00%	-230.2	55,433	4,490,273	10,963.49	-0.83%	-92.1	22,173	2,586,369	7,906.04	-33,260	-1,903,904	10%	3,326	-29,934	-1,713,513	24,849		37,273
2038	2,843.38	-7.00%	-214.1	51,552	4,541,825	10,877.86	-0.78%	-85.6	20,621	2,606,990	8,034.48	-30,931	-1,934,835	10%	3,093	-27,838	-1,741,352			
2039	2,644.30	-7.00%	-199.1	47,943	4,589,768	10,798.23	-0.73%	-79.6	19,177	2,626,167	8,153.93	-28,766	-1,963,601	10%	2,877	-25,889	-1,767,241	21,491	76,282	108,518
2040	2,459.15	-7.00%	-185.1	44,586	4,634,354	10,724.17	-0.69%	-74.1	17,834	2,644,002	8,265.02	-26,752	-1,990,352	10%	2,675	-24,076	-1,791,317			
2041	2,286.97	-7.00%	-172.2	41,464	4,675,818	10,655.30	-0.64%	-68.9	16,586	2,660,587	8,368.33	-24,878	-2,015,231	10%	2,488	-22,391	-1,813,708	18,587		27,880
2042	2,126.84	-7.00%	-160.1	38,561	4,714,379	10,591.25	-0.60%	-64.1	15,424	2,676,012	8,464.40	-23,137	-2,038,367	10%	2,314	-20,823	-1,834,531			
2043	1,977.93	-7.00%	-148.9	35,861	4,750,240	10,531.68	-0.56%	-59.6	14,344	2,690,356	8,553.75	-21,517	-2,059,884	10%	2,152	-19,365	-1,853,896	16,075		24,113
2044	1,839.44	-7.00%	-138.5	33,350	4,783,590	10,476.29	-0.53%	-55.4	13,340	2,703,696	8,636.85	-20,010	-2,079,894	10%	2,001	-18,009	-1,871,905			
2045	1,710.65	-7.00%	-128.8	31,015	4,814,605	10,424.77	-0.49%	-51.5	12,406	2,716,102	8,714.12	-18,609	-2,098,503	10%	1,861	-16,748	-1,888,653	13,903	73,262	94,117
2046	1,590.88	-7.00%	-119.8	28,844	4,843,449	10,376.86	-0.46%	-47.9	11,537	2,727,640	8,785.99	-17,306	-2,115,809	10%	1,731	-15,576	-1,904,228			
2047	1,479.49	-7.00%	-111.4	26,824	4,870,273	10,332.31	-0.43%	-44.6	10,730	2,738,369	8,852.82	-16,094	-2,131,904	10%	1,609	-14,485	-1,918,713	12,024		18,036
2048	1,375.90	-7.00%	-103.6	24,946	4,895,219	10,290.87	-0.40%	-41.4	9,978	2,748,348	8,914.97	-14,968	-2,146,871	10%	1,497	-13,471	-1,932,184			
2049	1,279.56	-7.00%	-96.3	23,199	4,918,418	10,252.34	-0.37%	-38.5	9,280	2,757,627	8,972.77	-13,920	-2,160,791	10%	1,392	-12,528	-1,944,712	10,399		15,599
																				1,365,480

Notes: It was assumed that project activities could reduce projected deforestation by 40% (i.e., "with project" only 60% of the projected emissions "without project" would occur); leaks were assumed to be 10% of the emissions reduced. Also, it was assumed that 40% of the net emissions reduction will be deposited in the VCS permanence buffer and only 60% of these net reductions will be converted into VCUs. For the long-term projections, it was assumed that 15% of the total buffer credits will be returned to the project as VCUs every five years, which is consistent with the current VCS rules. Finally, it was assumed that the project will start generating emissions reduction in the third year of project implementation (2015) considering that the first two years will be needed to develop the project, establish the baseline, develop the monitoring system, and establish agreements between the parties.

Pilot project site 2 (western Guatemala).



Projected carbon benefits of pilot project 2 over a 30-year period (forest cover and deforestation rates estimated based on *Mapa de Cobertura Forestal de Guatemala 2001-2006 [INAB]* and *Mapa de Cobertura Forestal de Guatemala 2006-2010 [INAB]*).

Year	Baseline					Scenario with project					Project benefits			Leaks		Net emissions reduction		Carbon credits		
	Forest area	Deforestation rate	Projected deforestation without project	Projected emissions without project		Forest area	Deforestation rate	Projected deforestation with project	Projected emissions with project		Avoided deforestation	Projected emission reduction with project		% change in emissions reduction in the project area	Emissions with project	With project		Credits VCS AFOLU Buffer	Debits VCS AFOLU Buffer	VCUs
	ha	%	ha/year	tCO_2-e/year	tCO_2-e	ha	%	ha/year	tCO_2-e/year	tCO_2-e	ha	tCO_2-e/year	tCO_2-e	%	tCO_2-e/year	tCO_2-e/year	tCO_2-e	tCO_2-e	tCO_2-e	tCO2-e
2010	36,163.35	-1.69%			-	36,163.35		0.4	-	-	-	-	-	0%		0	-			
2011	35,550.88	-1.69%	-612.5	314,858	314,858	35,550.88	-1.69%	-612.5	314,858	314,858	-	-	-	0%	-	0	-			
2012	34,948.78	-1.69%	-602.1	309,525	624,383	34,948.78	-1.69%	-602.1	309,525	624,383	-	-	-	0%	-	0	-			
2013	34,356.87	-1.69%	-591.9	304,283	928,666	34,356.87	-1.69%	-591.9	304,283	928,666	-	0	0	0%	-	0	0			
2014	33,774.99	-1.69%	-581.9	299,130	1,227,795	33,774.99	-1.69%	-581.9	299,130	1,227,795	-	0	0	0%	-	0	0			
2015	33,202.97	-1.69%	-572.0	294,063	1,521,859	33,546.18	-0.68%	-228.8	117,625	1,345,421	343.21	-176,438	-176,438	10%	17,644	-158,794	-158,794			
2016	32,640.63	-1.69%	-562.3	289,083	1,810,942	33,321.25	-0.67%	-224.9	115,633	1,461,054	680.62	-173,450	-349,888	10%	17,345	-156,105	-314,899			
2017	32,087.82	-1.69%	-552.8	284,187	2,095,129	33,100.13	-0.66%	-221.1	113,675	1,574,729	1,012.30	-170,512	-520,400	10%	17,051	-153,461	-468,360	187,344		281,016
2018	31,544.37	-1.69%	-543.4	279,374	2,374,503	32,882.75	-0.66%	-217.4	111,750	1,686,478	1,338.37	-167,624	-688,024	10%	16,762	-150,862	-619,222			
2019	31,010.13	-1.69%	-534.2	274,642	2,649,145	32,669.05	-0.65%	-213.7	109,857	1,796,335	1,658.92	-164,785	-852,810	10%	16,479	-148,307	-767,529	119,668		179,501
2020	30,484.93	-1.69%	-525.2	269,991	2,919,136	32,458.97	-0.64%	-210.1	107,996	1,904,332	1,974.04	-161,995	-1,014,804	10%	16,199	-145,795	-913,324			
2021	29,968.63	-1.69%	-516.3	265,418	3,184,554	32,252.45	-0.64%	-206.5	106,167	2,010,499	2,283.82	-159,251	-1,174,055	10%	15,925	-143,326	-1,056,650	115,648	46,052	219,524
2022	29,461.07	-1.69%	-507.6	260,923	3,445,478	32,049.42	-0.63%	-203.0	104,369	2,114,868	2,588.35	-156,554	-1,330,609	10%	15,655	-140,898	-1,197,548			
2023	28,962.11	-1.69%	-499.0	256,504	3,701,982	31,849.84	-0.62%	-199.6	102,602	2,217,470	2,887.73	-153,902	-1,484,512	10%	15,390	-138,512	-1,336,061	111,764		167,646
2024	28,471.60	-1.69%	-490.5	252,160	3,954,141	31,653.64	-0.62%	-196.2	100,864	2,318,334	3,182.04	-151,296	-1,635,808	10%	15,130	-136,166	-1,472,227			
2025	27,989.39	-1.69%	-482.2	247,889	4,202,031	31,460.75	-0.61%	-192.9	99,156	2,417,489	3,471.36	-148,733	-1,784,541	10%	14,873	-133,860	-1,606,087	108,011		162,016
2026	27,515.36	-1.69%	-474.0	243,691	4,445,721	31,271.14	-0.60%	-189.6	97,476	2,514,966	3,755.78	-146,214	-1,930,756	10%	14,621	-131,593	-1,737,680			
2027	27,049.35	-1.69%	-466.0	239,564	4,685,285	31,084.74	-0.60%	-186.4	95,825	2,610,791	4,035.39	-143,738	-2,074,494	10%	14,374	-129,364	-1,867,044	104,383	89,457	246,032
2028	26,591.23	-1.69%	-458.1	235,506	4,920,791	30,901.49	-0.59%	-183.2	94,203	2,704,994	4,310.26	-141,304	-2,215,798	10%	14,130	-127,173	-1,994,218			
2029	26,140.88	-1.69%	-450.4	231,518	5,152,309	30,721.35	-0.58%	-180.1	92,607	2,797,601	4,580.47	-138,911	-2,354,708	10%	13,891	-125,020	-2,119,237	100,877		151,316
2030	25,698.15	-1.69%	-442.7	227,597	5,379,906	30,544.25	-0.58%	-177.1	91,039	2,888,639	4,846.11	-136,558	-2,491,266	10%	13,656	-122,902	-2,242,140			
2031	25,262.91	-1.69%	-435.2	223,742	5,603,648	30,370.16	-0.57%	-174.1	89,497	2,978,136	5,107.25	-134,245	-2,625,511	10%	13,425	-120,821	-2,362,960	97,489		146,234
2032	24,835.05	-1.69%	-427.9	219,953	5,823,600	30,199.02	-0.56%	-171.1	87,981	3,066,117	5,363.96	-131,972	-2,757,483	10%	13,197	-118,774	-2,481,735			
2033	24,414.44	-1.69%	-420.6	216,227	6,039,828	30,030.77	-0.56%	-168.2	86,491	3,152,608	5,616.33	-129,736	-2,887,219	10%	12,974	-116,763	-2,598,497	94,215	121,451	262,774
2034	24,000.95	-1.69%	-413.5	212,565	6,252,393	29,865.38	-0.55%	-165.4	85,026	3,237,634	5,864.43	-127,539	-3,014,759	10%	12,754	-114,785	-2,713,283			
2035	23,594.46	-1.69%	-406.5	208,965	6,461,358	29,702.78	-0.54%	-162.6	83,586	3,321,221	6,108.32	-125,379	-3,140,138	10%	12,538	-112,841	-2,826,124	91,051		136,576
2036	23,194.86	-1.69%	-399.6	205,426	6,666,784	29,542.94	-0.54%	-159.8	82,170	3,403,391	6,348.08	-123,256	-3,263,393	10%	12,326	-110,930	-2,937,054			
2037	22,802.02	-1.69%	-392.8	201,947	6,868,731	29,385.81	-0.53%	-157.1	80,779	3,484,170	6,583.78	-121,168	-3,384,562	10%	12,117	-109,051	-3,046,105	87,993		131,989
2038	22,415.84	-1.69%	-386.2	198,527	7,067,258	29,231.33	-0.53%	-154.5	79,411	3,563,580	6,815.49	-119,116	-3,503,678	10%	11,912	-107,204	-3,153,310			
2039	22,036.20	-1.69%	-379.6	195,164	7,262,423	29,079.48	-0.52%	-151.9	78,066	3,641,646	7,043.28	-117,099	-3,620,776	10%	11,710	-105,389	-3,258,699	85,037	144,222	271,778
2040	21,662.99	-1.69%	-373.2	191,859	7,454,282	28,930.19	-0.51%	-149.3	76,744	3,718,390	7,267.20	-115,115	-3,735,892	10%	11,512	-103,604	-3,362,303			
2041	21,296.10	-1.69%	-366.9	188,610	7,642,891	28,783.44	-0.51%	-146.8	75,444	3,793,834	7,487.34	-113,166	-3,849,058	10%	11,317	-101,849	-3,464,152	82,181		123,272
2042	20,935.42	-1.69%	-360.7	185,415	7,828,307	28,639.16	-0.50%	-144.3	74,166	3,868,000	7,703.74	-111,249	-3,960,307	10%	11,125	-100,124	-3,564,276			
2043	20,580.85	-1.69%	-354.6	182,275	8,010,582	28,497.34	-0.50%	-141.8	72,910	3,940,910	7,916.49	-109,365	-4,069,672	10%	10,937	-98,429	-3,662,705	79,421		119,132
2044	20,232.29	-1.69%	-348.6	179,188	8,189,770	28,357.91	-0.49%	-139.4	71,675	4,012,585	8,125.62	-107,513	-4,177,185	10%	10,751	-96,762	-3,759,466			
2045	19,889.63	-1.69%	-342.7	176,153	8,365,923	28,220.85	-0.48%	-137.1	70,461	4,083,046	8,331.22	-105,692	-4,282,877	10%	10,569	-95,123	-3,854,589	76,754	159,585	274,715
2046	19,552.77	-1.69%	-336.9	173,170	8,539,093	28,086.10	-0.48%	-134.7	69,268	4,152,314	8,533.33	-103,902	-4,386,779	10%	10,390	-93,512	-3,948,101			
2047	19,221.62	-1.69%	-331.2	170,237	8,709,330	27,953.64	-0.47%	-132.5	68,095	4,220,409	8,732.03	-102,142	-4,488,921	10%	10,214	-91,928	-4,040,029	74,176		111,264
2048	18,896.08	-1.69%	-325.5	167,354	8,876,684	27,823.43	-0.47%	-130.2	66,942	4,287,351	8,927.35	-100,412	-4,589,333	10%	10,041	-90,371	-4,130,400			
2049	18,576.05	-1.69%	-320.0	164,519	9,041,203	27,695.41	-0.46%	-128.0	65,808	4,353,159	9,119.37	-98,712	-4,688,045	10%	9,871	-88,841	-4,219,240	71,685		107,527
																				2,598,805

Notes: It was assumed that project activities could reduce projected deforestation by 40% (i.e., "with project" only 60% of the projected emissions "without project" would occur); leaks were assumed to be 10% of the emissions reduced. Also, it was assumed that 40% of the net emissions reduction will be deposited in the VCS permanence buffer and only 60% of these net reductions will be converted into VCUs. For the long-term projections, it was assumed that 15% of the total buffer credits will be returned to the project as VCUs every five years, which is consistent with the current VCS rules. Finally, it was assumed that the project will start generating emissions reduction in the third year of project implementation (2015) considering that the first two years will be needed to develop the project, establish the baseline, develop the monitoring system, and establish agreements between the parties.

8.8. Carbon emissions reduced (CO_2) due to energy-efficient stoves program

Calculations related to carbon emissions reduced (CO_2) due to introduction of energy-efficient cook stoves (based on estimated population data for 2011).

Location	Population		Number of Households		Number of Households Using Firewood		Firewood Usage (Mts^3/person/ yr)*		Firewood Usage (Tons/person/ yr)**		Firewood Consumption (Tons/household/yr)		Tons of Firewood Saved***		Avoided Emissions (CO_2-e/year)		Total Avoided Emissions (CO_2-e over 2 yrs)	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Jalapa	20,316	32,020	4,232	5,930	2,760	5,111	1.4	2.6	0.789	1.465	16,029	45,116	769	2,165	1,410	3,969	2,820	7,937
Jutiapa	24,888	32,321	5,656	6,734	1,669	5,333	1.4	2.5	0.789	1.409	11,225	43,731	539	2,098	987	3,847	1,975	7,694
Santa Rosa	0	5,711	0	1,120	0	926	0.8	2.4	0.451	1.353	0	8,367	0	401	0	736	0	1,472
Total	**45,204**	**70,052**	**9,889**	**13,783**	**4,428**	**11,370**	**3.60**	**7.50**	**2.029**	**4.227**	**27,253**	**97,213**	**1,308**	**4,664**	**2,397**	**8,551**	**4,794**	**17,102**

* Estimated based on Martín, M. 2012. *Oferta y demanda de leña en la República de Guatemala. Woodfuel Integrated Supply / Demand Overview Mapping.* Guatemala: FAO.

** 0.563586594 T/m^3 (based on Instituto de Agricultura, Recursos Naturales y Ambiente/Universidad Rafael Landívar [IARNA/URL]).

*** The project will facilitate the installation of 2,000 energy-efficient stoves for approximately the same number of families (12.66% of households) in the communities residing in the dry landscapes of southeastern Guatemala who use firewood as their principal source of energy. Estimated efficiency of energy-efficient stoves: 37.9% (based on: CATIE. 1994. *Estufas ahorradoras de leña para el hogar rural: validación y construcción.* Turrialba, Costa Rica.)

Calculations related to carbon emissions reduced for other greenhouse gases due to introduction of energy-efficient cook stoves (based on Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories; and Worksheet 5-3 for the methodology proposed by the IPCC for National Greenhouse Gas Inventories, which is used by the Government of Guatemala).

Avoided Carbon	Nitrogen-Carbon	Total Avoided Nitrogen	Gases	Trace Gas Emissions Factor	Trace Gas Emissions	Conversion Factor	Avoided Emissions	Avoided Emissions (tons)	Avoided Emissions (CO2-e/year)	Total Avoided Emissions (CO2-e over 2 yrs)
(ktons C)		(kt N)			(kt C)		(Gg CH_4, CO)			
			CH_4	0.012	0.131	16/12	0.175	175	3,675	**7,350**
			CO	0.06	0.657	28/12	1.533	1,533	-	-
10.95	0.01	0.11			(kt N)		(Gg N2O, NOx)			
			N_2O	0.007	0.001	44/28	0.001	1	310	**620**
			NO_x	0.121	0.013	46/14	0.044	44	-	-

8.9. Project Cycle Management Services

Stage	Country Office[27]	UNDP/GEF
Identification, Sourcing/Screening of Ideas, and Due Diligence	Identify project ideas as part of country programme/CPAP and UNDAF/CCA.	• Technical input to CCA/UNDAFs and CPAPs where appropriate. • Input on policy alignment between projects and programmes. • Provide information on substantive issues and specialized funding opportunities (SOFs). • Policy advisory services including identifying, accessing, combining and sequencing financing. • Verify potential eligibility of identified idea.
	Assist proponent to formulate project idea / prepare project idea paper (e.g. GEF PIF/PPG).	*Technical support:* • Research and development. • Provide up-front guidance. • Sourcing of technical expertise. • Verification of technical reports and project conceptualization. • Guidance on SOF expectations and requirements. • Training and capacity building for Country Offices.
	Appraisal: • Review and appraise project idea. • Undertake capacity assessments of implementing partner as per UNDP POPP. • Environmental screening of project as and when included in UNDP POPP. • Monitor project cycle milestones.	• Provide detailed screening against technical, financial, social and risk criteria. • Determine likely eligibility against identified SOF.
	Partners: • Assist proponent to identify and negotiate with relevant partners, cofinanciers, etc.	• Assist in identifying technical partners. • Validate partner technical abilities.
	Obtain clearances: • Government, UNDP, Implementing Partner, LPAC, cofinanciers, etc.	• Obtain SOF clearances.
Project Development	*Initiation Plan:* • Management and financial oversight of Initiation Plan • Discuss management arrangements	• Technical support, backstopping and troubleshooting. • Support discussions on management arrangements • Facilitate issuance of DOA
	Project Document: • Support project development, assist proponent to identify and negotiate with relevant partners, cofinanciers, etc. • Review, appraise, finalize Project Document. • Negotiate and obtain clearances and signatures – Government, UNDP, Implementing Partner, LPAC, cofinanciers, etc. • Respond to information requests, arrange	*Technical support:* • Sourcing of technical expertise. • Verification of technical reports and project conceptualization. • Guidance on SOF expectations and requirements. • Negotiate and obtain clearances by SOF • Respond to information requests, arrange revisions etc. • Quality assurance and due diligence. • Facilitate issuance of DOA

[27] As per UNDP POPP with additional SOF requirements where relevant.

Stage	Country Office[27]	UNDP/GEF
	revisions etc. • Prepare operational and financial reports on development stage as needed.	
Key UNDP/GEF management performance indicators/targets for Project Development: 1. Time between PIF approval to CEO endorsement for each project: • Target for GEF trust fund project: FSP = 18 months or less, MSP 12 months or less. • Target for LDCF and SCCF: FSP/MSP = 12 months or less. 2. Time between CEO endorsement (or PAC for non GEF funded projects) to first disbursement for each project: • Target = 4 months or less		
Project Oversight	*Management Oversight and support*	*Technical and SOF Oversight and support*
	Project Launch/Inception Workshop • Preparation and coordination.	• Technical support in preparing TOR and verifying expertise for technical positions. • Verification of technical validity / match with SOF expectations of inception report. • Participate in Inception Workshop
	Management arrangements: • Facilitate consolidation of the Project Management Unit, where relevant. • Facilitate and support Project Board meetings as outlined in project document and agreed with UNDP RTA. • Provide project assurance role if specified in project document.	• Technical input and support to TOR development. Troubleshooting support. • Support in sourcing of potentially suitable candidates and subsequent review of CVs/recruitment process.
	Annual WorkPlan: • Issuance of AWP. • Monitor implementation of the annual work plan and timetable.	• Advisory services as required • Review AWP, and clear for ASL where relevant.
	Financial management: • Conduct budget revisions, verify expenditures, advance funds, issue combined delivery reports, ensure no over-expenditure of budget. • Ensure necessary audits.	• Allocation of ASLs, based on cleared AWPs • Return of unspent funds to donor • Monitor projects to ensure activities funded by donor comply with agreements/ProDocs • Oversight and monitoring to ensure financial transparency and clear reporting to the donor
	Results Management: • Alignment: link project output to CPAP Outcome in project tree in Atlas, link CPAP outcome in project tree to UNDP Strategic Plan Environment and sustainable Development Key Result Area as outlined in project document during UNDP work planning in ERBM. • Gender: In ATLAS, rate each output on a scale of 0-3 for gender relevance. • Monitoring and reporting: Monitor project results, track result framework indicators, and co-financing where relevant. Monitor risks in Atlas and prepare annual APR/PIR report where required by donor and/or UNDP/GEF. • Annual site visits – at least one site visit per year, report to be circulated no later	• Advisory services as required. • Quality assurance. • Project visits – at least one technical support visit per year.

Stage	Country Office[27]	UNDP/GEF
	than 2 weeks after visit completion.	
	Evaluation: • Integrate project evaluations into CO evaluation plan. Identify synergies with country outcome evaluations. • Arrange mid-term, final, and other evaluations: prepare TOR, hire personnel, plan and facilitate mission / meetings / debriefing, circulate draft and final reports. • Participate as necessary in other evaluations. • Ensure tracking of committed and actual co financing as part of mid-term and final evaluations. • Prepare management response to project evaluations and post in UNDP ERC.	• Technical support and analysis. • Quality assurance. • Compilation of lessons and consolidation of learning. • Dissemination of technical findings. • Participate as necessary in other SOF evaluations.
	Project Closure: • Final budget revision and financial closure (within 12 months after operational completion). • Final reports as required by donor and/or UNDP/GEF.	• Advisory services as required. • Technical input. • Quality assurance.

Key UNDP GEF management performance indicators/targets for Project Oversight:

1. Each project aligned with country outcomes and UNDP Strategic Plan Environment and Sustainable Development key results, and included in Country Office Integrated Work Plan in the ERBM:
   - Target = 100%
2. Quality rating of annual APR/PIRs: Once completed and submitted, the quality of each project APR/PIR is rated by an external reviewer
   - Target = Rating of Satisfactory or above
3. Quality rating of Terminal Evaluations: Once completed, the quality of each terminal evaluation is rated by an external reviewer
   - Target = Rating of Satisfactory or above
4. Quality of results achieved by project as noted in terminal evaluation: the independent evaluator assigns an overall rating to the project.
   - Target = Satisfactory or above

8.10. Environmental and Social Screening

The document for the Environmental and Social Screening for the Sustainable Forest Management and Multiple Global Environmental Benefits project is included in a separate file attached to this ProDoc.

8.11. UNDP GEF Branding Guidelines

UNDP-GEF BRANDING GUIDANCE NOTE

30 October 2013

The purpose of this guidance note is to promote a common branding of UNDP supported GEF/LDCF/SCCF[28] projects, and to provide guidance on implementing the GEF branding/visibility guidelines. This note applies to all communications materials including print, web, and video. Other non GEF/LDCF/SCCF donor financed projects managed by the UNDP-GEF unit should follow the UNDP branding guidelines and relevant guidance provided by the donor.

Please apply this guidance immediately and disregard previous versions of this guidance note. If you have any questions, please contact Nancy Bennet.

This note contains the following sections:

A. UNDP-GEF BRANDING
    1. Projects
    2. Portfolio of projects
    3. UNDP-GEF
B. PUBLICATIONS:
    1. UNDP-GEF Publications
        i. Logos
        ii. Foreword
        iii. Boilerplate text
        iv. Editing
        v. Designer
    2. UNDP or External Party Publications that include UNDP Supported GEF/LCDF/SCCF Financed Projects
    3. Project Communications
C. KEY RESOURCES:
    1. GEF resources
    2. UNDP resources

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[28] LDCF = Least Developed Countries Fund; SCCF = Special Climate Change Fund

UNDP-GEF BRANDING:

1. ***Projects:***
   - Please use the following when referring to projects: UNDP supported GEF financed project. Please change GEF to LCDF or SCCF when appropriate.
   - These are country owned projects or regional/global projects. They are not UNDP or UNOPS projects, UNDP-GEF projects or GEF funded/financed projects.
   - Projects are supported by UNDP not UNDP-GEF.
   - The grant component (from GEF/LDCF/SCCF) of the project is part of a bigger country owned project that is also partly financed by other partners.
   - List the country by name and avoid categories like 'developing' where possible.
   - When referring to the Small Grants Programme, please note the official branding of 'GEF SGP' or the 'GEF Small Grants Programme', it is not the UNDP SGP or UNDP Small Grants Programme or SGP. The GEF SGP is implemented by UNDP.

   Good examples:
   - ✓ Brazil Biodiversity Project supported by UNDP with GEF grant financing.
   - ✓ The GEF is the largest financier of the Brazil Climate Change Mitigation project (add title) supported by UNDP.
   - ✓ Regional Yellow Seas UNDP supported GEF financed project.
   - ✓ Global ALM project supported by UNDP with GEF grant financing.

   Please avoid examples:
   - × UNDP-GEF biodiversity project in Brazil.
   - × UNDP-GEF IW regional project.

2. ***Portfolio of Projects:***
   - UNDP supports a portfolio of focal area/thematic team projects that are financed by the GEF/LDCF/SCCF.

   Good examples:
   - ✓ UNDP supports 10 Biodiversity Projects in Brazil, 8 of which have GEF grant financing.
   - ✓ The GEF is the largest financier of the biodiversity projects in Brazil supported by UNDP.

   Please avoid examples:
   - × UNDP-GEF biodiversity portfolio or UNDP-GEF's portfolio of biodiversity projects.
   - × The GEF is the largest financier of UNDP's portfolio of Climate Change Mitigation projects in Brazil.

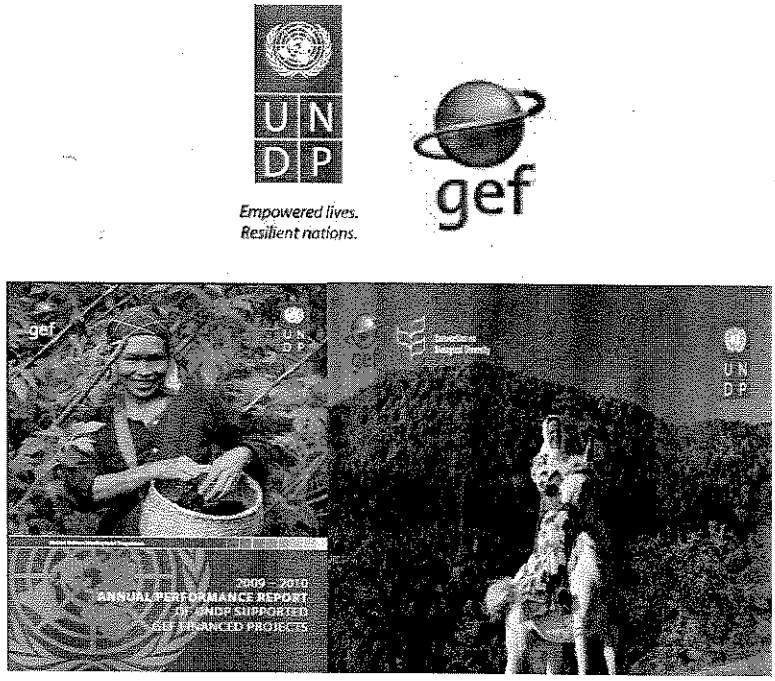
3. ***UNDP-GEF:***

- GEF does not finance UNDP or UNDP-GEF.
- Our Unit is called UNDP-GEF (note hyphen) or UNDP-Global Environment Facility. Not UNDP/GEF (no slash), not UNDP GEF, not UNDP Environmental Finance Services Group or Unit.
- RTAs are UNDP Technical Advisers based in a region.

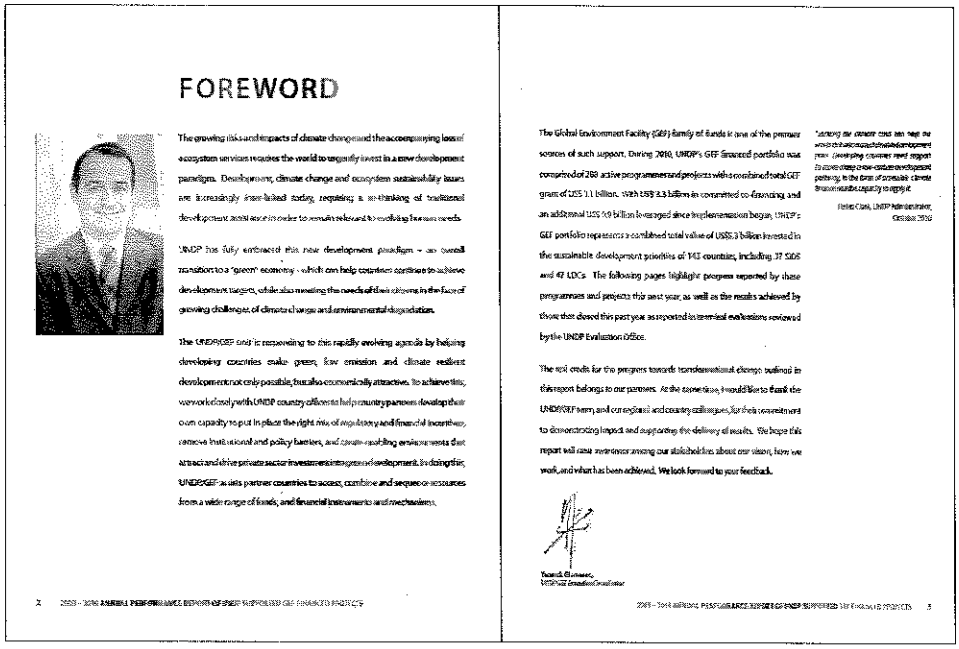
A. **PUBLICATIONS**:

1. ***UNDP-GEF Publications***: when 100% of the publication relates to UNDP supported GEF/LDCF/SCCF financed projects.

- **Logos:** The UNDP logo with tagline must appear on the top right hand corner of the publication. The GEF logo must appear on the top left hand corner of the publication. See section C below for details.

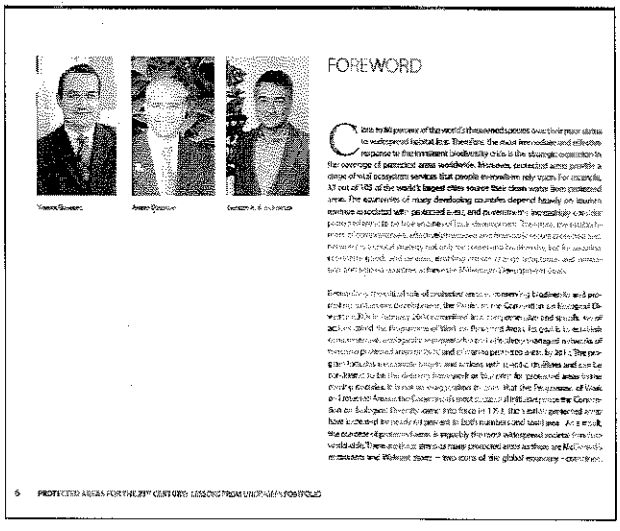


- **Foreword:** Each UNDP-GEF publication should include a foreword from the UNDP-GEF Executive Coordinator or the Principal Technical Adviser.



FOREWORD

When relevant, other partners and donors (i.e. the GEF...) should be invited to contribute to the foreword (see example below) or a second foreword can be added to the publication.



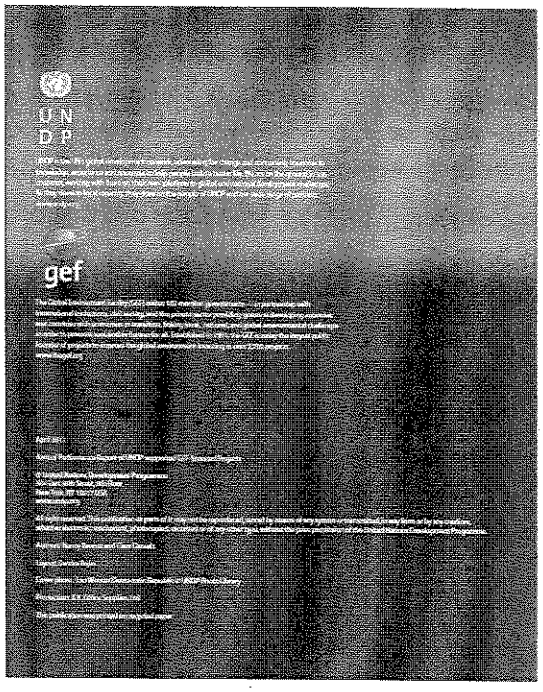
FOREWORD

- **Boilerplate text:** The logos of UNDP and GEF must be added on the inside cover of the publication. The following boilerplate text must be used under the logos.

GEF: "The GEF unites 182 countries in partnership with international institutions, non-governmental organizations (NGOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives. Today the GEF is the largest public funder of projects to improve the global environment. An independently operating

financial organization, the GEF provides grants for projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. Since 1991, GEF has achieved a strong track record with developing countries and countries with economies in transition, providing $9.2 billion in grants and leveraging $40 billion in co-financing for over 2,700 projects in over 168 countries. www.thegef.org"

UNDP: "UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations. www.undp.org"



- **Editing:** Publications should be edited by an external editor. Contact Nancy Bennet for details.
- **Designer/Corporate approach:** A designer (Sandra Rojas) is available to work on UNDP-GEF publications. Please contact Nancy Bennet for details.

2. ***UNDP or External Party Publications that include UNDP Supported GEF/LCDF/SCCF Financed Projects*:** When one or more of the case studies in the UNDP or External party publication is a UNDP supported GEF/LDCF/SCCF financed project.

    - **Acknowledgement box:** The support provided by UNDP and the GEF/LDCF/SCCF grant financing of the project (s) should be recognised in an acknowledgement box in the communications material (i.e. typically included on the inside cover). If this is not feasible,

UNDP support and GEF financing must be acknowledged in the section related to the UNDP supported GEF financed project.

a. UNDP publication acknowledgement box

> We would like to recognize the many partners who have contributed to the projects outlined in this publication, and thank the Global Environment Facility (www.thegef.org) along *with insert names of other financial donors* for their financial contribution to these projects.
>
> gef

b. External party publication acknowledgement box

> We would like to recognize the many partners who have contributed to the projects outlined in this publication, and the United Nation Development Programme (www.undp.org) and the Global Environment Facility (www.thegef.org) along *with insert names of other financial donors* for their support and financial contribution to these projects.
>
> UNDP
> *Empowered lives. Resilient nations.*
> gef

3. ***Project Communications:*** All project communication materials -including project videos, brochures, reports etc... - must follow the GEF guidelines: Enhancing the Visibility of the GEF
    - **Logos**: The UNDP and GEF logos should appear on all project communication materials. For project videos, the UNDP and GEF logos must appear at the beginning or the end of a project video. Where space permits, both the UNDP logo and boilerplate text and the GEF logo and boilerplate text should appear in the video as well. See examples:
        - http://www.facebook.com/video/video.php?v=404296136159

B. KEY RESOURCES:

1. ***GEF Resources***: Please visit the GEF website at www.thegef.org
   - Enhancing the Visibility of the GEF
   - GEF logo

2. *UNDP Resources:*
   - **UNDP LOGO AND TAGLINE:**
     https://intranet.undp.org/unit/pb/communicate/tagline/SitePages/Home.aspx
     This intranet portal assists UNDP staff to integrate the organization's new tagline ***'Empowered lives. Resilient nations.'*** Each folder provides guidelines on use and application of the new logo and tagline in various materials. The new branding with the tagline became effective in June 2011 and replaces previous standards. Please implement use of the UNDP logo and UNDP tagline in accordance with this guidance.

   - **QUALITY ASSURANCE PROCESS (IN THE POPP)**
     https://intranet.undp.org/global/popp/rma/Pages/seven-steps-quality-assurance-procedure.aspx
     This procedure applies to all global and regional products and publications branded with the UNDP logo. Given that UNDP will continue to spend a significant amount of resources publishing online and print products, it is critical that branded products are of high quality and high utility. The UNDP Quality Assurance Procedure is designed to ensure that global and regional products and publications are peer-reviewed, strategic and geared to respond to the needs of clients. A good practice example from the Democratic Governance Group is attached.

   - **BDP WRITER/EDITOR ROSTER**
     http://intra.undp.org/bdp/writer-editor-roster.htm
     To assist in meeting the editorial and production standards in line with the quality assurance process, BDP established a roster of writer/editors in the English language who are on LTAs with BDP. This can significantly reduce the time spent recruiting suitable writers/editors and help to ensure a high caliber of editorial input. BDP Units at Headquarters that need to engage a writer and/or editor must use one of the consultants from this roster.

   - **UNDP TEMPLATES FOR KNOWLEDGE AND ADVOCACY PRODUCTS**
     http://intra.undp.org/corporate-templates/index.html
     This online tool is designed to help UNDP staff create strategic, cost-effective, consistent and high-quality knowledge and advocacy products with clear corporate branding. Please note that the templates were created prior to the tagline being introduced. For the advocacy products please ensure professional designers you use insert the logo with the new tagline on the front covers of these products. For the knowledge products please use the existing MS Word files until new templates are available with the tagline incorporated. The Strategy Note, Comparative Experience, and Discussion Paper templates allow you to replace the existing logo in the header with the new logo+tagline images made available by the Office of Communications (see (1) above).