



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	Sustainable Forest Management and Multiple Global Environmental Benefits		
Country(ies):	Guatemala	GEF Project ID:	4479
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4637
Other Executing Partner(s):	Ministry of the Environment and Natural Resources of Guatemala (MARN); Protected Areas National Council (CONAP); Fundación para el Ecodesarrollo y la Conservación (FUNDAECO)	Submission Date:	May 31, 2011
GEF Focal Area (s):	MULTI FOCAL AREA	Project Duration (Months):	60
Name of parent program (if applicable):		Agency Fee (\$):	440,000
➤ For SFM/REDD+ <input checked="" type="checkbox"/>			

A. FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative grant amount (\$)	Indicative co-financing (\$)
BD-2	Outcome 2.1	Output 2.2	GEFTF	399,195	1,232,330
CCM-5	Outcome 5.1	Output 5.1	GEFTF	820,320	2,366,875
	Outcome 5.2	Output 5.2		1,000,000	2,917,603
LD-2; LD-3	Outcome 2.2	Output 2.2	GEFTF	250,485	738,875
	Outcome 2.3	Output 2.3		380,000	1,142,050
	Outcome 3.1	Output 3.1		120,000	357,861
SFM/REDD-1	Outcome 1.1	Output 1.1	GEFTF	290,000	727,481
	Outcome 1.2	Output 1.2		500,000	1,923,250
	Outcome 1.3	Output 1.3		200,000	356,875
Sub-total				3,960,000	11,763,200
Project management cost			GEFTF	440,000	1,396,800
Total project cost				4,400,000	13,160,000

B. PROJECT FRAMEWORK:

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.						
Project Component	Grant type	Expected Outcomes	Expected Outputs	Trust Fund	Financing from relevant TF, (\$)	Indicative co-financing, (\$)
1. Regulatory and institutional framework integrates principles of sustainable forest management (SFM) and sustainable land management (SLM), and strengthens integrated environmental land management capacity.	TA	<p>Outcome 1.1. Enabling policy and institutional environment for integrating principles of SFM and SLM into territorial planning through national-level policies (to be determined during the PPG phase) to ensure the flow of multiple ecosystems services for SFM/REDD+, LD, CCM, and biodiversity (BD).</p> <p>Outcome 1.2. Improvement by X percent in the capacity of national technical staff as measured by capacity development indicators (CONAP, INAB, and MAGA) (baseline to be defined during the PPG phase): 30 national technical staff trained in SLM, SFM,</p>	<p>Output 1.1.1. Interagency agreement for cooperation between the MARN, CONAP, the National Forest Institute (INAB), the Ministry of Agriculture (MAGA), and the National Association of Municipal Governments (ANAM) allows inclusion of SFM / SLM principles into forestry, agricultural, and BD policies, and ensures permanence of the project's benefits (specific policies will be determined during the PPG phase).</p> <p>Output 1.1.2. Forest Policy reform to include the thorny bush and dry forest as forest ecosystems and provide for LULUCF including C flow assessments.</p> <p>Output 1.2.1. Strengthened capacity of government officials and field staff (foresters, protected area [PA] managers, and agricultural extension officers) in LULUCF management practices, SFM/REDD+ methodologies, C flows assessment and monitoring, and BD conservation strategies.</p>	GEFTF	Total: 534,000 CC: 273,000 LD: 112,500 SMF/REDD: 148,500	1,816,686

		REDD+, carbon (C) monitoring and BD conservation practices.	<p>Output 1.2.2. Municipal-level GIS mapping tool of SFM/SLM and BD benefits guide development and implementation of municipal development plans at the national level.</p> <p>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).</p>			
2. Pilot projects for SFM/REDD+ and SLM reduce land degradation, improve C stocks, and enhance BD conservation in southeastern and western Guatemala.	Inv	<p>Pilot 1: <i>SFM/REDD+ and SLM improve C stocks and reduce dry forest deforestation in a dry mountain landscape in southeastern Guatemala.</i></p> <p>Outcome 2.1. Improved SFM/REDD+ and SFM restore C stocks of dry forest over a 5-year period (i.e., project length): 472,140 tCO₂ eq sequestered (5,160 ha; aboveground biomass).</p> <p>Outcome 2.2. Avoided emissions due to dry forest deforestation: 162,254 tCO₂ over a 5-year period (baseline area = 14,840 ha; aboveground biomass).</p> <p>Outcome 2.3. Improved dry forest management delivers sustained water flows in three watersheds (baseline stream flow will be determined during the PPG phase).</p> <p>Outcome 2.4. Improvement by X 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 350 community members applying SLM, SFM, and REDD+ practices.</p> <p>Pilot 2: <i>SFM/REDD+ increases ecosystem connectivity and contributes to the conservation of BD in a humid mountain landscape in western Guatemala.</i></p> <p>Outcome 2.5. Avoided emissions due to humid montane forest deforestation: 46,024 tCO₂ over a 5-year period (baseline area = 4,334 ha; aboveground biomass).</p>	<p>Pilot 1: <i>SFM/REDD+ and SLM improve C stocks and reduce dry forest deforestation in a dry mountain landscape in southeastern Guatemala.</i></p> <p>Output 2.1.1. 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.</p> <p>Output 2.2.1. Methodology for REDD+ pilot project in dry forest is developed (methodology components are outlined in the text).</p> <p>Output 2.3.1. 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.</p> <p>Output 2.3.2. Energy-efficient stoves program reduces firewood consumption and GHG emissions.</p> <p>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.</p> <p>Output 2.4.2. Development plans for three (3) municipalities incorporate SFM/REDD+ and SLM principles and their implementing measures.</p> <p>Output 2.4.3. 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.</p> <p>Pilot 2: <i>SFM/REDD+ increases ecosystem connectivity and contributes to the conservation of BD in a humid mountain landscape in western Guatemala.</i></p> <p>Output 2.5.1. 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</p>	GEFTF	<p>Pilot 1: Total: 2,920,355</p> <p>CC: 1,547,320 LD: 637,985 SFM/REDD: 735,050</p> <p>Pilot 2: Total: 505,645</p> <p>BD: 399,195 SFM/REDD: 106,450</p>	<p>Pilot 1: 8,575,564</p> <p>Pilot 2: 1,370,950</p>

		<p>Outcome 2.6. No net loss in forest cover (20,176 ha) in five forest/agricultural production landscapes (listed in the text) maintains stable numbers of species of biological groups (plants and amphibians) (baseline to be determined during the PPG phase).</p> <p>Outcome 2.7. Improvement by X percent in the capacity of municipal staff and community members as measured by capacity development indicators (baseline to be defined during the PPG phase): 35 municipal technical staff and 150 community members applying SFM, REDD+, and BD conservation practices.</p>	<p>conservation of humid montane forest.</p> <p>Output 2.5.2. Methodology for REDD+ pilot project in humid montane forest is developed (methodology components area outlined in the text).</p> <p>Output 2.6.1. Biological corridor established (250 ha) between forest remnants.</p> <p>Output 2.6.2. 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.</p> <p>Output 2.7.1. Strengthened capacity of municipalities and community members in the western region for including SFM, REDD+, and BD conservation tools in local development plans in order to contribute to the institutional sustainability of project outcomes.</p> <p>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.</p> <p>Output 2.7.3. Five (5) municipal-level monitoring systems to assess SFM/REDD+ and BD benefits.</p>			
Sub-total					3,960,000	11,763,200
Project management cost (BD: 44,355; CC: 202,260; LD: 83,385; SFM/REDD: 110,000)	GEFTF				440,000	1,396,800
Total project costs					4,400,000	13,160,000

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

Sources of Co-financing for baseline project	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	Ministry of the Environment and Natural Resources of Guatemala (MARN);	In-kind	700,000
National Government	National Council of Protected Areas (CONAP)	In-kind	262,000
National Government	National Council of Protected Areas (CONAP)	Grant	100,000
Foundation	Fundación para el Ecodesarrollo y la Conservación (FUNDAECO)	Grant	350,000
Bilateral Aid Agency (ies)	German Development Bank (KfW): Dry Forest Project	Grant	11,000,000
Bilateral Aid Agency (ies)	Fund for the Conservation of Tropical Forests in Guatemala (U.S. debt swap)	Grant	140,000
Local Government	Municipalities: Todos Santos Cuchumatán, Barillas, Soloma, and Mancomunidad Frontera Norte	In-kind	60,000
Local Government	Municipalities: Todos Santos Cuchumatán, Barillas, Soloma, and Mancomunidad Frontera Norte	Grant	30,000
Local Government	Municipalities: Sta. Rosa and Jutiapa	In-kind	126,000
GEF Agency	UNDP	In-kind	125,000
GEF Agency	UNDP	Grant	267,000
Total Co-financing			13,160,000

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

GEF Agency	Type of Trust Fund	Focal area	Country name/Global	Project amount (a)	Agency Fee (b)	Total c=a+b
PNUD	GEF TF	BD	Guatemala	443,550	44,355	487,905
PNUD	GEF TF	LD	Guatemala	833,870	83,387	917,257
PNUD	GEF TF	CC	Guatemala	2,022,580	202,258	2,224,838
PNUD	GEF TF	SFM/REDD	Guatemala	1,100,000	110,000	1,210,000
Total GEF Resources				4,400,000	440,000	4,840,000

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1. THE GEF FOCAL AREA STRATEGIES: The project addresses the GEF V strategy for Sustainable Forestry Management (SFM), as well as the Focal Areas of Biodiversity (BD), Land Degradation (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 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/REDD+ measures to address threats to forests in the western (department of Huehuetenango) and southeastern (departments of Jalapa, Jutiapa, and Santa Rosa) regions of Guatemala where deforestation rates are high due mostly to the expansion of agriculture and the unsustainable use of forests. The implementation of a REDD+ pilot project covering 4,334 ha in the buffer zone of the Todos Santos Cuchumatanes PA in the department of Huehuetenango (Component 2) will lead to the estimated reduction of emissions of 46,024 tCO₂ over a 5-year period from humid montane forest deforestation. 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 biodiversity patterns and ecological processes in this region, in particular a “no net loss” in forest cover in a critical corridor covering 20,176 ha. 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 advance a Forest Policy reform to include the thorny bush and dry forest as forest ecosystems subject to LULUCF management activities (Component 1), and will restore and reforest 5,160 ha of dry forest with native species in the southern region, resulting in 472,140 tCO₂ eq sequestered over a 5-year period (i.e., project length) (Component 2). Additionally, the implementation of agroforestry best practices in a 14,840-ha landscape will reduce C emissions by an estimated 162,254 tCO₂ over a 5-year period. These 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 \$12,848,000 USD will result in an increase in C stocks and avoided emissions equal to 3,059,969 tCO₂, for a unit cost of \$4.20 USD/tCO₂. This is lower than the average cost of other low-cost mitigation approaches that could be applied in Guatemala, and much lower than the IPCC-recognized ceiling of \$20 USD/tCO₂-eq for low-cost technologies. 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 facilitate improved forest management and maintain forest cover in the departments of Jalapa, Jutiapa, and Santa Rosa, resulting in sustained water flows in three critical watersheds.

A.2. NATIONAL STRATEGIES AND PLANS OR REPORTS AND ASSESSMENTS UNDER RELEVANT CONVENTIONS: 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 Guatemalan Forestry Law (1996) and the National Forestry Policy, 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., the National Forest Institute - 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 Municipality Forestry Offices. 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 Guatemalan System of Protected Areas (SIGAP); and b) the promotion of economic compensation mechanisms for CO₂ sequestration.

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 PA 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)¹ 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

¹ CONAP-ZOOTROPIC-CDC-TNC. 2009. Plan de Conservación de las Regiones Secas de Guatemala. Editores: D. Ariano, E. Secaira, B. García y M. Flores. TNC, Guatemala. 60pp.

forth in the framework for National Policy on Climate Change (2009); in particular, by implementing a protocol for the monitoring of C flow, the development of the methodologies for pilot REDD+ and avoided deforestation 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 (PRONADYS), 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.

B. PROJECT OVERVIEW

B.1. DESCRIBE THE BASELINE PROJECT AND THE PROBLEM THAT IT SEEKS TO ADDRESS: Guatemala covers an area of 108,890 square kilometers (km²), 36% of which (or 38,986.28 km²) is covered by forests. Guatemala has approximately 14.3 million inhabitants, with 40% classified as indigenous. 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 Nearctic regions) means that Guatemala contains numerous habitats, and is an area of high global biodiversity 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.

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 INAB, CONAP, and Universidad del Valle of Guatemala (2006), Guatemala lost 73,148 ha of forest annually between 1991/93 and 2001, equating to a rate of 1.43% per annum. An analysis of the dynamics of land use and forest coverage (LULUCF, INAB methodology) determined that the highest annual loss of forest coverage was due to agricultural expansion and the unsustainable use of forests. Among the most threatened forest ecosystem is the dry forest, which covers an area of 4,001 km² (3.67% of the country) and is recorded to have lost 75% of its historical coverage. The plant species richness of Guatemala’s dry forests has been ranked as “high” and includes more than 1,031 species of plants distributed among 135 families; some species are highly endangered, such as cacti, bromeliads, and orchids (e.g., *Selenicereus chantalensis*, *Myrtillocactus eichlamii*, *Escontria lepidantha*, and *Tillandsia xerographica*), which are collected for the plant trade.

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 charlesborgetti*), which are threatened due to habitat loss and hunting. Other species of great ecological value in this region are bats, especially those which 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 biodiversity index for the region is 0.3768, which is similar to national and regional averages. The southeastern region includes the departments of Jalapa, Jutiapa, and Santa Rosa, all of which are experiencing high rates of forest loss. In 2001 the total forest coverage for the three departments was 144,745 ha (Jalapa: 43,404 ha; Jutiapa: 27,988 ha; Santa Rosa: 73,353 ha). During the period of 1991/93-2001, it was estimated that there was an annual net loss of 17,723 ha of forest in the three departments, most of which was dry forest. The department of Jutiapa was the most affected with an annual deforestation rate of 2.17% (the second highest in the country), while Jalapa had a rate of 1.42% of forest loss and Santa Rosa 0.34%². Forests (34.61%) and shrubs and bushes (35.72%) cover most of the land, while agriculture covers 21.43%. Natural grasses and other land uses (1%) make up the remaining land cover. Using the estimated area of forests for 2001 in the three departments and an average of stored C of 62 ton/ha (aboveground tree biomass), it is estimated that the total amount of stored C in the region’s forests is 1.1 million tons. The region has a population of 1.1 million, the majority of which are mestizos, and to a lesser degree Mayan.

In the **western region** of the country along the boundary with Mexico, the department of Huehuetenango (7,403 km²) covers almost the entire longitude of the Sierra de los 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 meters above sea level) 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 planetary center of biodiversity 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 pajuil (*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. In 2001 the department’s total forest coverage was reported at 213,496 ha. The annual rate of deforestation in the department is 1.26%, and during the 1991/93-2001 time period it was estimated that there was an annual net loss of 30,996 ha of forest. Using the estimated area of forest for 2001 and a stored C average of 62 ton/ha (aboveground tree biomass only), it is estimated that the amount of stored C in the forests of the

² Universidad del Valle de Guatemala, Instituto Nacional de Bosques, y Consejo Nacional de Áreas Protegidas. 2006. Dinámica de la Cobertura Forestal de Guatemala durante los años 1991, 1996 y 2001 y Mapa de Cobertura Forestal 2001. Fase II: Dinámica de la cobertura forestal. Ediciones Superiores, S. A. Guatemala. 98 pp.

department is 13.2 million tons. Huehuetenango is the second most populous department in Guatemala with a population close to 1.1 million (the majority of which is Mayan), 70% of who live in impoverished conditions.

The forests and biodiversity in both the **southeastern and western regions** of Guatemala are experiencing similar threats. These threats include the expansion of agriculture, fuel wood extraction, and changes in rainfall patterns and temperature caused by climate change. Illegal logging and forest fires are also a threat to the western region. These threats are the main factors responsible for the loss of forests in the western and southeastern regions of the country, as well as for soil erosion and degradation, sedimentation and alteration of water ways, and the loss of biodiversity (loss/alteration of habitat and increase in fragmentation and isolation of remnant forests). Historically, the Guatemalan population has largely relied on agricultural production for its livelihood. However, current agricultural practices have a negative impact on soils productivity by promoting soil erosion and nutrient depletion. This, together with the country's vulnerability to extreme weather events and the effects of climate change, has led to the acceleration of soil degradation, an increased dependence on agrochemicals, and the loss of over 244 million tons of soil per year. The National Forest Inventory (IFN) estimates that 98% of the human populations that are located in proximity of the forested areas practice some type of agricultural activity. Many of these populations depend on the forests as their main source of fuel. The average volume authorized by INAB from 1999 to 2006 for fuel wood in the country was 388,162 cubic meters (m³); however, the actual volume of fuel wood consumed is not available and the number is believed to be much higher. It is estimated that illegal logging represents between 30% and 50% of the volume of commercial lumber harvested per year (959,443 m³).

In addition, Guatemala is highly vulnerable to climate variations. According to the national projections for CC developed by the MARN, annual average temperatures in the country could increase between 0.5 degrees Celsius (°C) and 4°C by the year 2050; the total precipitation could diminish, resulting in the expansion of semi-arid zones, particularly in the western region of the country, and the intensification of the late summer or "canicula" (July-September). The forest resources that are most vulnerable to variations in temperature are the coniferous forests, due to the potential expansion of dryer areas. Modeling of various scenarios for temperature change suggests that between 41,377 ha (0.38%) and 400,000 ha (3.67%) of the Guatemalan land surface would suffer severe modifications in the forest coverage by the year 2050. It is estimated that over 12% of the national territory is highly susceptible to desertification and more than 49% is subject to direct impacts from droughts. The increase in temperature would also increase the probability of forest fires, which, according to the IFN, has affected up to 30% of the forests in the past. The majority of forest fires are associated with agricultural activities (32%) or they are intentionally set (27%). 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.

The following baseline was developed for each of the four focal areas address by this project: 1) **Forests:** the problem that the baseline activities seek to address is deforestation and non-sustainable forest management. One of the principal activities promoted by the Government of Guatemala (GoG) has been reforestation, particularly through the Forestry Incentives Project (PINFOR), which provides economic incentives for the reforestation of areas of no less than 2 ha and which are found duly inscribed in the Property Registry. Between 1998 and 2009, the reforestation of 94,151 ha and the management of 174,959 ha of forest was achieved through PINFOR with an investment of approximately \$134 million USD. PINFOR investments will be \$56,124 USD for the same period. In addition, the Incentives Program for Small Holders of Land Suitable for Forestry or Agroforestry (PINPEP) provides economic incentives (i.e., payments in cash) with the goal of increasing the coverage of small areas of land through reforestation and management of natural forests. Since its inception in 2006, PINPEP has benefited 13,613 men and 4,321 women in the management of 1,495 ha of natural forest for production purposes; 9,856 ha of natural forest for protection; 940 ha of forestry plantations; and 809 agroforestry systems with a total investment of approximately \$3.1 million USD. Baseline investments through PINPEP for the 2012-2017 period will be \$3,855,992 USD. Also, the PINFOR and PINPEP investments have allowed the establishment of nine Municipal Forest Offices and provided support to four community organizations in the southeastern region, and provides training in forest management and control of forest fires to municipal staff and local communities in Huehuetenango; 2) **Climate change (REDD+):** the problem that the baseline activities seek to address is the reduction of emissions from deforestation and forest degradation. The signing and ratification of the UNFCCC (1995) led the GoG to create the Guatemalan Office of Joint Implementation and the National Council on Climate Change in 1997, entities formed by representatives from the government and non-governmental sectors and the private and academic sectors. In addition, this led the MARN to develop the Inventory of Emissions and Absorptions of Greenhouse Gases and the First National Communication on Climate Change (2001), which are currently the principal information resources on the subject at the national level. As a consequence of unsustainably managed land, the country has been losing its ability to absorb through C sinks and has experienced increased GHG emissions. The MARN has estimated that between 1990 and 2000 the country lost 12.3 million tons of C stocks due to the changes in forests and other biomass stocks, and 0.7 million tons of C stocks due unsustainable agricultural practices, which led to soil degradation. In addition, because of the conversion of forests and savannas for other uses, CO₂ emissions increased by 7.5 million tons. The MARN, through the Technical Unit for Climate Change (UTCC), has initiated the formation of work groups (state institutions and non-governmental organizations [NGOs]) in the areas of forests, biodiversity, and CC in order to define general guidelines for the development of a REDD Readiness process for Guatemala. The Forest Carbon Partnership Facility (FCPF) will provide a grant of \$3.4 million USD to finance the REDD Readiness through the implementation of the R-PP between the 2012-2015 period. Developing the R-PP proposal is a complex process that involves the participation of multiple stakeholders from government organizations, NGOs and grassroots groups, including indigenous communities. The R-PP proposal is expected to be approved by the FCPF Participants Committee in late 2011. An early draft of the

R-PP includes the following components: planning and interagency coordination for National Readiness, development of the REDD Strategy, development of a baseline scenario, monitoring of emissions and C stocks, timetable and budget, monitoring and evaluation, and knowledge management; 3) **Biodiversity**: the problem that the baseline activities seek to address is the protection of forests and prevention of habitat loss for biodiversity in dry and humid montane forests. PAs are an essential component of the conservation strategies for forests and biodiversity in the country. SIGAP, whose governing entity is the CONAP, currently has a total of 270 areas that cover 35,209 km² (32.33% of the country’s territory). In the western region (department of Huehuetenango) there is only one PA registered within SIGAP, with an area of 7,255.4 ha (1% of the national territory). There are currently 26 PAs in the southeastern region with a total area of 37,312.6 ha, only six of which have approved management plans. PAs in Guatemala remain largely underfunded, and data regarding current levels of investment and revenue generation are not generally available. The data for 2008 indicate that the total available finances for the PAs administered directly by CONAP (71) were \$8.3 million USD; however, \$16.1 million USD was required to cover basic management costs. CONAP’s annual available finances have decreased slightly since 2008, and are projected to be \$7.6 million USD/yr for the 2012-2017 period; 4) **Land Degradation**: the problem that the baseline activities seek to address is the loss of dry forest cover and soil degradation due the expansion of agriculture. Under the United Nations World Food Program, a total investment of \$5.3 m USD will increase water storage capacity on the ground and reforestation and soil conservation in hillside areas between 2011 and 2015 in Huehuetenango, Jutiapa y Jalapa.

The baseline projects are not sufficient to achieve the long-term solution of strengthening land/forest management and biodiversity conservation in the southeastern and western regions of Guatemala in order to secure the flow of multiple ecosystems services, while ensuring ecosystem resilience to climate change. Currently, there are two barriers which prevent this objective from being achieved:

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 that have made important contributions to forestry/agroforestry resources management are insufficient for SFM, SLM, and BD conservation. In addition, gaps exist in the current laws regarding forest management. For example, forestry authorities do not recognize the thorny bush and dry forest as forest ecosystems, which prevent them from benefiting from LULUCF management activities. The definition of “forest” in Guatemala is broad. According to the Forestry Law, a forest is defined as “an ecosystem in which trees are the dominant and permanent plant species” and includes natural forests with no management, natural forests with management, and natural forests undergoing agroforestry. Since this definition is so broad and the dry forest represents only 3.67 % of the surface of the country, the Forestry Policy has made only modest investments to conserve this ecosystem. The lack of knowledge and information and the complexity of the procedures and requirements for forest users to obtain legal status make the situation more critical. In addition, the majority of the forests in Guatemala are used for fuel wood and timber for household consumption; however, existing laws do not require resource use plans and the forests remain largely unmanaged. Finally, the existing forestry policies tend to emphasize the value of timber, while ignoring additional ecosystem values (e.g., C storage and sequestration, watershed protection, and habitat for multiple species). 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 in charge of 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 encourages illegal extraction and non-sustainable uses.
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-level 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; for example, 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

B. 2. INCREMENTAL COST REASONING AND THE ASSOCIATED GLOBAL ENVIRONMENTAL BENEFITS: The project’s objective is to strengthen land/forest management processes and biodiversity conservation in order to secure the flow of multiple ecosystems services, including an increase in C stocks and maintain ecosystem connectivity. The GEF investment will counter natural dry and humid montane forest loss in production landscapes by piloting SFM/REDD+ and SLM models in western and southeastern Guatemala.

Component 1 will develop a legal, planning, and institutional framework for integrating SFM/REDD+ and SLM principles (e.g., integrated approach to managing forest ecosystems, protection and sustainable use of biodiversity, adaptation and prevention of land degradation, and integration of people’s livelihood objectives within the management of forest ecosystems), within national environmental and development policies. The project will establish interagency cooperation agreements between the MARN, CONAP, INAB, MAGA, and ANAM to establish the mechanisms for including SFM/SLM principles into forestry, agricultural, and biodiversity policies (specific policies will be determined during the PPG phase). These agreements will also ensure permanence of the project’s benefits. These agreements will facilitate the homologation of national and local norms related to land use, including

those that govern the environmental, agricultural, livestock, and forestry sectors (specific norms will be determined during the PPG phase). A reform to Guatemala's Forest Policy will allow the recognition by forestry authorities of the thorny bush and dry forest as forest ecosystems, enabling them to undergo LULUCF management activities (i.e., protection of C stocks and reducing emissions through the management of land use, afforestation and reforestation, and SFM) and C flow assessments. The project will propose a more detailed forest definition that takes into account the characteristics of dry forest. Such a definition will allow the Forestry Policy to invest in the conservation and sustainable use of dry forest in a more systematic way. A definition will be sought that is consistent with internationally accepted definitions such as that for the Clean Development Mechanism of the Kyoto Protocol, which defines it as "a minimum area of land of 0.05-1.0 hectares with tree crown cover (or equivalent stocking level) of more than 10-30% with trees with the potential to reach a minimum height of 2-5 metres at maturity in situ," and other definitions that may be proposed as part of future international meetings of the REDD+ mechanism. GEF resources will also put into place spatial and field-based tools that will allow national agencies to better assess and support actions at the local level; these tools will be available nation-wide. This includes a municipal-level GIS mapping tool of SFM/SLM and BD benefits that will support the development and implementation of municipal development plans and a protocol for the monitoring of C flow that will be articulated with municipal land use plans. To improve their capacity in providing local-level assistance, the project will train up to 30 officials and field staff (foresters, PA managers, agricultural extension officers) in LULUCF management practices, SFM/REDD+ methodologies, C flows assessment and monitoring, and biodiversity conservation strategies. During the PPG phase actions will be coordinated with national stakeholders to determine the added value of this proposal in the development of Guatemala's R-PP for the FCPF, including contributions to capacity building (see project framework outputs 1.2.1, 2.4.1, and 2.7.1) and the development of REDD+-based payment schemes (see project framework outputs 2.1.1 and 2.5.1). Additionally, an activity for coordination with the FCPF will be included as part of the PPG grant and the specifics will be determined at the time of the CEO Endorsement and included as part of the incremental cost analysis; however, GEF funds will not be used to finance activities related to the R-PP for the FCPF.

Component 2 will pilot SFM/REDD+ and SLM practices in the southeastern Guatemala improving C stocks and reducing dry forest deforestation (*Pilot 1*). A REDD+ pilot project for 14,840 ha that incorporates agroforestry best practices will improve C stocks, reduce emissions, and reduce dry forest deforestation in southeastern Guatemala. This REDD+ pilot project will include the restoration and reforestation of 5,160 ha through the planting of native species and natural regeneration. The methodology for the implementation of the REDD+ pilot project for the 14,840 ha will consist of a 14-step process: 1) define the boundaries of the proposed REDD project activity (spatial, temporal, field measurements of carbon pools and sources of greenhouse gas emissions); 2) analyze historical land use and land cover change in the reference region during the past 10-15 years and project potential forest regeneration; 3) analyze agents, drivers and underlying causes of deforestation; 4) project the quantity of future deforestation; 5) project the location of future deforestation by analyzing the spatial correlation between historical land-use and land-cover change and biogeophysical and socioeconomic factors (vicinity to roads, slope, population density, etc.); 6) project future baseline activity data (the land-use and land-cover change component of the baseline) by combining the results of steps 2, 4 and 5; 7) estimate the transaction, implementation, and opportunity costs associated with land uses in the project area; 8) perform remote sensing and develop accurate and precise field-based estimates of the expected carbon stock baseline and non-CO₂ emissions; 9) perform remote sensing and develop accurate and precise field-based estimates of the expected actual carbon stock changes and non-CO₂ emissions; 10) estimate the expected leakage of carbon stock changes and non-CO₂ emissions; 11) calculate the expected ex ante net anthropogenic GHG emission reductions; 12) project monitoring; 13) ex post calculation of net anthropogenic GHG emission reduction; and 14) adjustment of the baseline for future crediting period. The REDD+ pilot project will adjust this methodology according to the local conditions. This REDD+ pilot project will also include a proposal for performance-based payment schemes (i.e., voluntary market or International Fund) that include precise forest measurements as outlined in the 14-step methodology. The proposal for performance-based payment schemes will be implemented during the life of the project. According to Cancun's COP decision 4/CP.15 the scope of a REDD+ project includes reducing emission from deforestation and forest degradation, conserving and enhancing forest C stocks, and ensuring the sustainable management of forests.

Improved dry forest management will deliver sustained water flows in three watersheds. To this end, SFM/SLM plans will be developed in collaborative manner by local, municipal, and national authorities for the upper and middle sections of two (2) watersheds with extended dry forest coverage, and for the Ayarza Lagoon area in the department of Santa Rosa. Additionally, an energy-efficient stoves program will be implemented to deal directly with the core issues of meeting energy needs, reducing firewood consumption, and maintaining dry forest cover.

On the other hand and in line with the central role that municipalities play in the management and conservation of Guatemala's natural forests, the project will incorporate SFM/REDD+ and SLM principles into the Municipal Development Plans in three (3) municipalities in the southern Guatemala, as well as define measures for their implementation and mechanisms for enforcement and monitoring. The project will be highly participatory and will include the participation of the Municipal Development Councils (MDCs) through which the indigenous and non-indigenous populations and the private sector participate in public management and contribute to local planning processes; the Foresters Association of Jalapa (ASILIA); the Mancomunidad del Sur Oriente; and the association of municipalities for the southeastern region which represent a wide variety of local stakeholders through their councils. Additionally, the project will train 60 municipal technical staff and 350 community members in SLM, SFM, and REDD+ practices, which in addition to facilitating the implementation of specific activities for SFM/REDD+ and SLM, will build the skills needed to promote long-term collaborative partnerships with central government agencies (e.g., CONAP, INAB, and MAGA) and the

participation of local communities in the project, which will contribute to permanence of the project's benefits and institutional sustainability of project outcomes. In addition, by the end of the project three (3) environmental/forestry offices in municipalities of Jutiapa, Jalapa, and Santa Rosa will be properly staffed and equipped, in order to more effectively control the use and management of forests within their respective jurisdictions.

Component 2 will pilot SFM/REDD+ in western Guatemala (department of Huehuetenango) increasing ecosystem connectivity and contributing to the conservation of BD in a humid mountain forest/agriculture landscape (*Pilot 2*). This includes a REDD+ pilot project for 4,334 ha in the buffer zone of Todos Santos Cuchumatanes PA, following the methodology described previously, and the implementation of economic incentives (PINFOR, PINPEP) for small farmers to maintain the forest cover (20,176 ha). The project will also incorporate biodiversity conservation criteria (ecosystem connectivity, PA buffer consolidation, soil and water quality improvement, maintenance of forest/vegetation cover, and prevention of land conversion) into the development plans of five municipalities in the department of Huehuetenango. MDCs from the department of Huehuetenango will participate in this process, as well as the Mancomunidad Frontera Norte and the Cuchumatanes Association of Civil Society Organizations (ASOCUCH), which represent cooperatives, associations, and groups of entrepreneurial women in the Sierra de los Cuchumatanes. Additionally, the project will train 35 municipal technical staff and 150 community members in SFM, REDD+, and BD conservation practices. Overall, project outcomes and outputs under Component 2 will represent short-term benefits to 40,176 ha of Guatemala's dry and humid montane forests, and will have a catalytic effect on all dry forests in the country (up to 400,000 ha).

The SFM/REDD+ activities to be delivered through the two pilot projects of Component 2 will be synergistic. Although the two pilot projects include different groups of local stakeholders from two different geographic regions, the national stakeholders common to both pilot projects and most relevant to the project are CONAP and INAP. These two organizations together with the project team will provide coordinated technical support as guidance for local stakeholders in the implementation of SFM/REDD+ project activities in the field. Additionally, the training activities planned for the two pilot projects through project outputs 2.4.1 and 2.7.1 will bring local stakeholders together to share knowledge and experiences. This will be particularly valuable as local stakeholders will have the opportunity to learn lessons about SFM/REDD+-related activities that will be implemented in the other project site. The application of the REDD+ methodology in both pilot sites will also have a synergetic effect as lessons derived from adjusting/applying its steps in one pilot site will be used for the second pilot site. The specific benefits to be delivered through the pilot projects of Component 2 are presented below:

Current practice (baseline)	Alternative to be put in place by the project	Benefits
<p>Southern region (departments of Jutiapa, Jalapa, and Santa Rosa):</p> <ul style="list-style-type: none"> - Unsustainable agricultural practices - Overexploitation of dry forest resources: illegal logging for fuel wood 	<p>Improved dry forest management:</p> <ul style="list-style-type: none"> - Restoration and reforestation of 5,160 ha of dry forest includes planting of native species and natural regeneration. - Agroforestry best practices into land use and forest conservation in 14,840 ha (including traditional harvesting practices, planned use of firewood, establishment of riparian buffer strips, and use of windbreaks and live fences). - SFM/SLM plan for three watersheds to maintain forest covers, upper and middle sections of two (2) watersheds and the Ayarza Lagoon. - Energy-efficient stoves program reduces firewood consumption. 	<ol style="list-style-type: none"> 1. C sequestration: Restoration and reforestation of 5,160 ha of dry forest over a 5-year period (i.e., project length): 472,140 tCO₂ eq (5,160 ha x 5 tC ha/yr^[3] x 5 years x 3.66 CO₂ conversion factor). 2. Avoided emissions: Emissions reduction from deforestation (average deforestation rate of 1.27%/yr)⁴ of 14,840 ha: 162,254 tCO₂ over a 5-year period (# of ha x Annual deforestation rate ha/yr x 60.0 tC ha/yr^[5] x 3.67 CO₂ conversion factor). 3. Sustained water flows in three watersheds. 4. 20,000 ha under sustainable management for forestry use.
<p>Western region (department of Huehuetenango):</p> <ul style="list-style-type: none"> - Unsustainable agricultural practices - Overexploitation of humid montane forest resources: illegal logging for timber and fuel wood - Forest fires associated with agricultural production - Unconsolidated buffer zone for a municipal PA 	<p>SFM/REDD+ and BD conservation:</p> <ul style="list-style-type: none"> - Sustainable agriculture and cattle ranching: reduced use of fertilizers, soil enrichment with crop residues and animal manure, crop rotation, use of filter strips and cross-slope farming to reduce erosion, control and surveillance of forest fires, and limit grazing in forest. - Reduced deforestation (4,334 ha) in the buffer zone of Todos Santos Cuchumatanes PA through a REDD+ pilot project, which will include: a) land zoning and definition of the project/emissions assessment boundary; b) verification of baseline for avoided emissions; c) monitoring and verification of emission reductions; and d) definition of mechanisms for the sharing of benefits. - Set-aside areas for fuel wood collection. - Two (2) BD/forest conservation agreements between the 	<ol style="list-style-type: none"> 1. Improved humid forest cover: No net loss in forest cover (20,176) in five forest/agricultural production landscapes (buffer zones of the Todos Santos Cuchumatanes and Cerro Cruz Maltin PAs; Laguna Brava, Pojom River watershed, and Xoxlac River watershed). 2. Improved habitat for BD: Number of species of biological groups (plants and amphibians) remains stable forest/agricultural production landscapes. 250-ha biological corridor provides connectivity between forest remnants. 4. Avoided emissions: Emissions reduction from deforestation (average deforestation rate of 1.22%/yr)⁶ of 4,334 ha: 46,024

³ Based on Kanninen, M. 2002. Secuestro de Carbono en los Bosques: El papel de los bosques en el Ciclo Global de Carbono. Available at http://www.fao.org/wairdocs/lead/x6366s/x6366s09.htm#P0_0. Accessed 03/09/2011.

⁴ Average deforestation rate for Jutiapa, Jalapa, and Santa Rosa (Source: Universidad del Valle de Guatemala, Instituto Nacional de Bosques, y Consejo Nacional de Áreas Protegidas. 2006. Dinámica de la Cobertura Forestal de Guatemala durante los años 1991, 1996 y 2001 y Mapa de Cobertura Forestal 2001. Fase II: Dinámica de la cobertura forestal. Ediciones Superiores, S. A. Guatemala. 98 pp). It was assumed the rate of deforestation for year 1 will remain equal to the baseline (1.31%) and that it will decrease by 0.02% each year for the remaining 4 years (average deforestation rate = 1.27%). Deforestation rates will be re-estimated and validated through the project.

⁵ Based on Kanninen, M. 2002. *Op. cit.*

⁶ It was assumed the rate of deforestation for year 1 will remain equal to the baseline (1.26%) and that it will decrease by 0.02% each year for the remaining 4 years (average deforestation rate = 1.22%).

	municipality and agriculture/cattle ranching associations with incentives (PINFOR, PINPEP) to maintain the forest cover in 20,176 ha; ensures permanence of project benefits. – Monitoring systems allow municipal authorities to assess BD and SFM/REDD+ benefits and facilitate decision-making.	tCO_2 over a 5-year period (# of ha x Annual deforestation rate x 62.0 tC ha/y ⁷ x 3.67 CO ₂ conversion factor).
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The short-term global benefits are: a) sustainable management of 20,000 ha of dry forest and 20,176 ha of humid montane forest; b) restoration/reforestation of 5,160 ha of dry forests that will contribute to increased C stocks by 472,140 tCO₂ eq over a 5-year period (i.e., project length); c) avoided emissions from humid montane forest (46,024 tCO₂ over a 5-year period) and dry forest (162,254 tCO₂ over a 5-year period) deforestation; and d) no net loss in humid forest cover and BD conservation in production landscapes in western Guatemala (20,176 ha), including the buffer zones of the Todos Santos Cuchumatanes and Cerro Cruz Maltin PAs (department of Huehuetenango) and the establishment of a 250-ha biological corridor between forest remnants. The SLM/SFM activities piloted by the project have the potential of being replicated in up to 400,000 ha of dry forest in Guatemala.

B.3. SOCIOECONOMIC BENEFITS TO BE DELIVERED BY THE PROJECT INCLUDING GENDER DIMENSIONS: Local communities of the western and eastern communities, many of which are Mayan, have traditionally depended on forest resources for their livelihoods, particularly for timber and fuel wood. Some of these communities are among the poorest in Guatemala with average annual incomes of only \$820 USD. The project will benefit these communities by: a) developing mechanisms for sharing the revenues from the sale of forest credits in C markets or international funds can increase net income by \$4 to 5 USD per tCO₂ eq/year); b) improving access to economic incentives to maintain and improve forest cover with potential benefits of up to \$270 USD per ha through programs such as PINFOR and PINPEP; and c) improving the skills of local forest guards (some of which are women) working in environmental/forestry municipal offices and municipal PAs. Indigenous and mestiza women who are small landowners will benefit from the PINFOR and PINPEP programs, the development of sustainable agricultural practices, and will be beneficiaries of capacity-building (outputs 1.2.1, 2.4.1, and 2.7.1) and technical assistance to be provided by the project on LULUCF management practices (2.3.1, 2.4.2, and 2.6.2), SFM/REDD+ methodologies (outputs 2.2.1 and 2.5.2), and biodiversity conservation (2.6.1 and 2.7.2). Additionally, the new project output regarding energy-efficient stoves (output 2.3.2) will specifically include women. To ensure that gender and indigenous issues are further incorporated throughout the project proposed herein, a gender/indigenous specialist will be hired during the PPG phase to address these topics specifically with the support from the gender and climate change UNDP community of practice. By protecting and improving forest cover and promoting best management practices (BMPs) to reduce soil erosion the project will also help to reduce local communities' vulnerability to natural disasters associated with CC.

B.4. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS AND MEASURES THAT ADDRESS THESE RISKS:

Risk		Risk Mitigation Strategy
Uncertainty of future project support from GoG officials	M*	To reduce the uncertainty regarding future support to the project by the GoG (presidential elections are scheduled for September, 2011), the UNDP Country Office will systematize and inform new officials about the project, its goal, and its expected benefits. To maintain their interest in the project, the UNDP Country Office and the project team will keep GoG officials 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 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.
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.
Uncertainty regarding property and land use rights	M	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 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.
Forest damage and loss of forest cover due to the effects of climate change	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.
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. Starting with the PPG phase the MDCs and other Civil Society Organizations (CSOs) will be invited to participate in the project design, implementation, and evaluation. During the PPG a detailed stakeholder analysis will be performed to guarantee that all local stakeholder groups related to the project are properly identified and engaged in the project.

B.5. KEY STAKEHOLDERS INVOLVED IN THE PROJECT:

⁷ FAO. 2004. Inventario Forestal Nacional 2002-03. Documento de trabajo 92, Programa de Evaluación de los Recursos Forestales, FAO, Guatemala.

Stakeholders	Project Implementation Role
MARN	The MARN is the 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/adaptation to CC.
CONAP	CONAP is the focal point of the CBD. It is play a central role in formulating policies/strategies for SFM/REDD+, SLM, and forest and BD conservation.
INAB	INAB is the entity charged with the execution and promotion of forestry policies in Guatemala. It will be charged with facilitating access to technical assistance, technology, and services for SFM/REDD+ to municipalities and other stakeholders.
MAGA	MAGA is charged with formulating 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.
Municipalities	Municipalities are responsible for the sustainable management of natural resources within their jurisdictions, in coordination with the institutions charged with developing environmental regulations. Municipalities are organized under the ANAM.
Local communities	Local communities will implement BMPs for the existing forest, as well as 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/REDD+.
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 (ASILIA). MDCs, which represent local communities (indigenous and non-indigenous), will participate in decision-making processes regarding SFM/SLM and BD conservation. ASOCUCH, which represents cooperatives, associations, and groups of entrepreneurial women in the Sierra de los Cuchumatanes, will participate in the negotiation of BD/forest conservation agreements. Mancomunidades (Mancomunidad del Sur Oriente and Mancomunidad Frontera Norte), which are associations of municipalities with wide social representation, will be instrumental in the integration of SLM and SFM/REDD+ strategies into the development plans of municipalities.
FUNDAECO	This NGO promotes conservation of land and BD, empowerment, participation, and integrated community development. It will carry out activities for the conservation of forests and BD in the department of Huehuetenango.

B.6. OUTLINE THE 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 biodiversity, 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 Guatemalan Protected Areas System (SIGAP)*. This project is currently in its preparation phase 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 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 implementation partners, this will facilitate the exchange of information and lessons learned. 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.

C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

The comparative advantage of the UNDP for GEF lies in its global network of Country Offices, its experience in the formulation of integral development policies, institutional strengthening, and the participation of the non-governmental sector and communities, as specified in the document *Comparative Advantage of the GEF Agencies (GEF/C.31/5rev.1)*. UNDP currently supports SFM and REDD+ activities in over 25 countries around the world. Under the UN/REDD, UNDP is currently working in 5 countries in LAC (Bolivia, Panama, Ecuador, Paraguay, and Mexico) on SFM and REDD+ readiness projects with a total investment of over 30 million USD. These project focus on the following activities: a) Developing National REDD+ strategies and pilot projects; b) developing/Strengthening Measuring, Reporting and Verification (MRV) and Evaluation mechanisms; c) promoting the participation of local stakeholders, including Indigenous Peoples in REDD+ readiness activities; d) strengthening governance mechanisms for REDD+; e) ensuring that REDD+ schemes derive SFM and other co-benefits; f) ensuring the equitable distribution of REDD+ benefits; and e) supporting mainstreaming of REDD+ principles into policies and laws of relevant sectors. Furthermore, Guatemala is a UN-REDD partner and while no funding is currently available to finance REDD+ readiness activities in this country, the UNDP country office has been participating in the FCPF REDD+ readiness process.

C.1. INDICATE THE CO-FINANCING AMOUNT THE GEF AGENCY IS BRINGING TO THE PROJECT: UNDP will contribute \$267,000 USD in cash and \$125,000 USD in kind, bringing the total UNDP co-financing contribution to \$392,000 USD. In addition, the UNDP Country Office was instrumental in the negotiation process for securing \$11 million USD of co-financing from the KfW.

C.2. HOW DOES THE PROJECT FIT INTO THE GEF AGENCY'S PROGRAM AND STAFF CAPACITY IN THE COUNTRY TO FOLLOW UP PROJECT IMPLEMENTATION: The United Nations Development Assistance Framework (UNDAF) 2010-2014 recognizes sustainable land management, conservation, and sustainable use of biodiversity and CC as priority areas for UN support to the GoG. This project contributes to the achievement of the first outcome of UNDAF: by 2014 environmental governance with active participation by the Guatemalan society has been strengthened, vulnerability to climatic variability and change and other catastrophic events has been significantly reduced, and renewable energy and water and sanitation services have been extended, focusing on the most vulnerable population. This project also contributes to the achievement of the UNDP Outcome 6: By 2014, the civil society in Guatemala, particularly the most vulnerable to the effects of CC, the rural population, are provided with improved environmental management and governance and renewable energy services as stated in the UNDP Country Programme Document and Action Plan 2010-2014. This project will be under the supervision of the Regional Technical Advisor for GEF and UN-REDD projects in LAC who has a Ph.D. and M.Sc. in Environmental Policy and Economics with emphasis on the economic valuation of forests. The UNDP country office will assign seven core staff members to manage and supervise project implementation. The project will be managed by the Programme Analyst of the Environment and Development Unit of UNDP Guatemala, who has a MSc in Conservation and Natural Resource Management, B.Sc. in Biology, and nine years of experience in SFM, environmental management, and legal/policy issues; a Climate Change and Environment Advisor (MSc. Marine Sciences, eight years' work experience in environmental management and climate change); a senior Programme Support Associate (15 years with UNDP). Support will be provided by the Head of Crisis Prevention and Recovery Area (MSc. Applied Forestry/Hydrology and 25 years of working experience with emphasis on SFM and disaster risk reduction); and project monitoring and evaluation will be led by UNDP's Head of Monitoring and Evaluation Unit (ten years of experience). Implementation support on Procurement and Finance will be provided by three staff members: Finance Officer (13 years of experience), Procurement Officer (17 years with UNDP), and Human Resources Officer (16 years of experience).

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

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Luis Alberto Ferraté Felice	Minister	Environment and Natural Resources	03/28/2011
Luis Alberto Ferraté Felice	Minister	Environment and Natural Resources	05/24/2011

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	Date (MM/DD/YYYY)	Project Contact Person	Telephone	Email Address
Yannick Glemarec		May 31, 2011	Santiago Carrizosa, Regional Technical Advisor, EBD	+507 302-4510	Santiago.carrizosa@undp.org