

Country submitting the R-PIN: GUATEMALA, Central America

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1. General Description:

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- b) List authors of and contributors to the R-PIN, and their organizations: See Annex 1
- c) Who was consulted in the process of R-Pin preparation, and their affiliation

Table N.1 List of Consulted Persons

Name	Institution
Governmental	
Mr. Carlos Mansilla M.	Climate Change Unit Coordinator, MARN
Mr. Raul Castañeda I.	National Clean Development Office, MARN
Mr. Marco Aurelio Juárez	Climate Change Unit Consultant
Mr. Rolando Zannotti	Deputy Manager, National Institute of Forestry- (INAB)
Mr. Marcel Oseida	National Forestry Institute (INAB)
Mr. Fernando Garcia	Director of Biodiversity Technical Office (OTECBIO-CONAP)
Mr. Carlos Estrada	Forest Department (CONAP)
Mr. Cesar Belletón	Forest Department (CONAP)
Mrs. Claudia Munera	National Implementation Support Partnership (NISP-CONAP)
Mr. Francisco López	Coordinator, Proyecto Piloto de Apoyos Forestales Directos
Mrs. Lorena Córdova	National Forestry Institute (INAB)
Non Governmental Organization	
Mr. Juan Carlos Godoy	The Nature Conservancy (TCN)
Mr. Carlos Rodríguez	Conservation International (CI)
Mr. Mario Escobedo	Rainforest Alliance (RA)
Mr. Oscar Gonzalez	Fundación Defensores de la Naturaleza
Mr. Edwin Castellanos	Universidad del Valle
Mrs. Claudia García	Private Natural Reserves Association
Mr. Omar Samayoa	Rainforest Alliance (RA)
Mrs. Vida Amor de De Paz	Tropical Rainforest Foundation (TRF)/Fundación del Bosque Tropical (FBT)

The experts mentioned above have been consulted regarding the main causes of deforestation in Guatemala, and they have provided ways to induce reduction. Many of them are forestry experts while others work for non-governmental organizations that manage natural resources in Guatemala. During the process of elaboration of the R-PIN, it became evident that the issues regarding the implementation of avoided deforestation must include activities of consultation with key stakeholders. These consultations will be carried out as a part of the R-PLAN Development.

2. Which institutions are responsible in your country for:

- a) Forest Monitoring and forest inventories:
- National Forestry Institute -INAB

- National Council of Protected Areas –CONAP
 - Ministry of Environment and Natural Resources -MARN
 - Ministry of Agriculture, Livestock and Food-MAGA
- b) Forest Law enforcement:
- National Forestry Institute-INAB
 - National Council of Protected Areas –CONAP
 - National Civil Police-Division for Protection of Nature (DIPRONA)
 - Municipalities (local governments)
 - Judiciary (According to their functions of law enforcement)
- c) Forestry and Forest Conservation:
- National Forestry Institute–INAB
 - National Council of Protected Areas -CONAP
 - Ministry of Environment and Natural Resources -MARN
 - National System for Control and Prevention of Forest Fires-SIPECIF
- d) Coordination across forest and agriculture sectors, and rural development
- Ministry of Agriculture, Livestock and Food-MAGA
 - Ministry of Environment and Natural Resources -MARN
 - National Forestry Institute -INAB
 - National Council of Protected Areas –CONAP
 - Urban and Rural Development Councils
 - Municipalities (local governments).

Description of the functions of each of the institutions listed above:

Ministry of Agriculture, Livestock and Food-MAGA (Decree No. 114-97 Law of the Executive Organism)

It is in charge of formulating and executing the policy for agricultural development, hydrobiological, and of sustainable use of renewable, natural resources and services in conformity with the law. To promote, and oversee the application of clear and stable norms regarding hydro-biologic, phytosanitary and animal health, and farming, cattle, and forestry activities, seeking competitive markets and taking into account the conservation and protection of the environment.

It promotes the policy for improvement in the decentralized modernization of the Guatemalan System of Protected areas, as well as the formulation of policies for the development and conservation of the natural heritage of the country. Designs in coordination with the Ministry of Economy, external commercial policies for farming, forestry and hydrobiologic products. Promotes the development of farming, forestry and hydro-biologic enterprises for the competitiveness and productivity of the country.

Ministry of Environment and Natural Resources -MARN (Under Decree No. 90-2000/ Chapter 1- Article 1)

It is in charge of formulating and executing environmental policies. It oversees the fulfillment of the regimen of conservation, protection, sustainability and improvement of the environment and natural resources within the country, as well as the human right for a healthy and ecologically stable environment.

National Forestry Institute-INAB (Under Legislative Decree No. 101-96 Forestry Law)

It is the forestry national service created when the Forestry Law was approved. The objectives of the Forestry Law are "to support, promote and give incentive to the public and private investment in forestry activities for the increase of production, commercialization, diversification, industrialization and conservation of the forestry resources." It is a semi- autonomous entity with its own patrimony. It is in charge of being the governing entity of all forestry activities within the country, outside the protected areas.

It is in charge of the administration of 9 regions in the entire country, in which there are 33 sub-regions that take care of the 22 States (Departments) of Guatemala. INAB gives protection to the forest species and stimulates its conservation and reproduction and provides technical data regarding deforestation and forest cover.

Its highest authority is its Board of Directors composed of 7 actors from the forestry and environmental sector of Guatemala (Ministry of Agriculture, Ministry of Finance, the National Central School of Agriculture, a representative of the Guatemalan Universities with forestry careers, a representative of the Association of non-governmental organizations for conservation of Natural

Resources-ASOREMA, a representative of the National Association of municipalities (local governments), and the CEO of INAB. It is presided by the Minister of Agriculture.

National Council of Protected Areas-CONAP (Under Decree No. 4-89, Law of Protected Areas)

It is the highest entity in charge of directing and coordinating the Guatemalan System of Protected Areas (SIGAP) created under the mentioned Law. It formulates the policies and strategies of conservation, protection and improvement of the natural heritage of the nation and approves the submission of forestry concessions and management of protected areas, seeking the compliance and fulfillment of the norms contained in the regulations.

Urban and Rural Development Councils

The system of Urban and Rural Development Councils was created in 2002 with the objective of organizing public administration via the formulation of development policies, plans and budget programs and promoting inter-institutional coordination. You can read details of this system on Annex 5.

Municipalities (Local Governments)

In Guatemala, municipalities are autonomous in accordance with the Constitution. According to the Municipal Code, they are responsible for the sustainable management of the natural resources in their jurisdiction, in coordination with institutions in charge of environmental regulations. Within municipalities, territorial planning is carried out by their own territorial units.

3. Current country situation (consider the use of Annex 1 to help answer these questions):

- a) Where do forest deforestation and forest degradation occur in your country, and how extensive are they? (i.e location, type of forest ecosystem and number of hectares deforested per year, differences across land tenure (e.g., national forest land, private land, community forest, etc):

The "*Dynamics of Forest Cover during 1991, 1996 and 2001 and Forest Cover Map of 2001*" is a study published on February 2006, by Universidad del Valle de Guatemala (UVG), National Forest Institute (INAB) and National Protected Areas Council (CONAP). This study determines annual deforestation rate on 1.43% which is equivalent to 73,148 hectares per year (see Table No.2); this figure was confirmed later by data obtained on the Forest Inventory of 2002-2003.

Table No.2 illustrates the annual forest loss by department; it shows that Petén has the highest loss with an annual deforestation average of 47,412 ha. The western, eastern and central departments of the country are the areas with higher population and with the biggest environmental pressures. Based on the loss percentage shown on Table No.2, other departments with high deforestation are Chiquimula, Jutiapa, Huehuetenango, Jalapa and El Progreso. Annex 2 shows the map of deforestation rates by department and Annex 3 presents the dynamics of the forest cover by municipalities.

Table N. 2 Guatemala's annual loss rate

Departme nt		Forest 91/93 (ha)	Loss (%)	Increase (%)	Net Loss (%)	Net loss rate (ha/year)	Annual Rate (%)
1	Alta Verapaz	511,140	15.16	5.32	-9.84	-6,256	-1.22
2	Baja Verapaz	125,240	11.74	5.03	-6.71	-803	-0.64
3	Chimaltenango	93,773	6.31	4.59	-1.72	-149	-0.16
4	Chiquimula	57,997	30.12	5.31	-24.81	-1,429	-2.46
5	El Progreso	61,724	16.92	3.41	-13.51	-793	-1.29
6	Escuintla	43,044	15.04	6.77	-8.27	-330	-0.77
7	Guatemala	89,505	9.13	5.58	-3.54	-294	-0.33
8	Huehuetenango	244,462	22.55	9.88	-12.67	-3,091	-1.26
9	Izabal	373,022	13.26	2.05	-11.21	-5,097	-1.39
10	Jalapa	50,594	21.25	7.04	-14.21	-718	-1.42
11	Jutiapa	35,829	29.45	7.56	-21.89	-778	-2.17
12	Petén	2,624,643	13.17	0.55	-12.61	-47,412	-1.81
13	Quetzaltenango	49,072	10.70	9.03	-1.66	-93	-0.19
14	Quiché	336,518	13.31	4.80	-8.51	-3,301	-0.98
15	Retalhuleu	12,677	10.24	13.41	3.17	58	0.46
16	Sacatepéquez	23,974	5.93	6.23	0.30	7	0.03
17	San Marcos	99,806	16.42	12.48	-3.93	-458	-0.46
18	Santa Rosa	76,044	10.46	6.92	-3.54	-259	-0.34
19	Sololá	44,777	5.94	5.91	-0.03	-1	0.00
20	Suchitepéquez	24,678	13.84	7.80	-6.04	-136	-0.55
21	Totonicapán	51,312	12.52	2.25	-10.27	-488	-0.95
22	Zacapa	91,799	16.71	3.43	-13.28	-1,226	-1.34
Total		5,121,629	14.00	3.00	-11.00	-73,148	-1.43

Dynamics of Forest Cover during 1991, 1996 and 2001 and Forest Cover Map of 2001.

Table No.3 includes the life zones classification by Holdridge present on the departments mentioned above. In order to have a general idea about the kind of forest lost when deforestation goes on, in Annex 4 you can find the indicator species of each life zone.

Table N. 3 Life zones integrated in departments with highest percentages of forest loss

Department	Proportion area of the Department (%)	Life zone (Holdridge)
Petén	61.12	Subtropical moist Forest (warm)
	38.88	Subtropical wet Forest (warm)
Chiquimula	75.45	Subtropical moist Forest (temperate)
	19.59	Subtropical dry Forest
	2.84	Subtropical wet Forest (cold)
	1.89	Subtropical thorn woodland
Jutiapa	0.23	Subtropical wet Lower Montane Forest
	50.43	Subtropical moist Forest (temperate)
	26.50	Subtropical moist Forest (warm)
	14.52	Subtropical dry Forest
Huehuetenango	4.88	Tropical dry Forest
	3.42	Subtropical wet Forest (warm)
	0.25	Subtropical wet Forest (cold)
	35.33	Subtropical moist Lower Montane Forest
	18.62	Subtropical wet Lower Montane Forest
	17.90	Subtropical wet Forest (warm)
	12.13	Subtropical moist Forest (warm)
	8.22	Subtropical wet Montane Forest
	6.61	Subtropical dry Forest
	1.19	Subtropical moist Montane Forest
Jalapa	71.73	Subtropical moist Forest (temperate)
	13.71	Subtropical dry Forest
	12.47	Subtropical moist Lower Montane Forest
	1.40	Subtropical wet Lower Montane Forest
El Progreso	0.66	Subtropical wet Forest (warm)
	0.03	Subtropical thorn woodland
	38.59	Subtropical dry Forest
	26.81	Subtropical moist Forest (temperate)
	16.77	Subtropical thorn woodland
	10.73	Subtropical Lower Montane rain Forest
	6.95	Subtropical wet Forest (cold)
	0.16	Subtropical moist Lower Montane Forest

Based on information of the Life zones by Holdridge Map, Republic of Guatemala. MAGA. 2005

Table N. 4 shows the characteristics of the property regime. The largest forest area belongs to public property (42.2% of the national territory, including national and municipal land), 37.8% are private lands and 14.7% are communal areas.

Table N. 4 Forestry tenure and other forestry lands

Land use	Property Regime	Surface (ha)	% from the total forest
Forest	State	1,367,731.60	33.80
	Municipal	341,753.90	8.40
	Communal	592,875.70	14.70
	Private	1,531,133.20	37.80
	Other	212,520.80	5.30

National Forestry Inventory 2002-2003.

b) Are there any estimates of greenhouse or carbon dioxide emissions from deforestation and forest degradation in your country? If so, please summarize:

Yes, Guatemala, through the Climate Change Unit, has estimated the national greenhouse gas inventories for 1990 and 2000.

The figures for 2000 are preliminary and they are being reviewed as a part of the Second National Communication on Climate Change. The national results for 1990 and 2000 are presented below in Table No.4.

Table N 5 National Inventory of Emissions and Absorptions of Greenhouse Gases
(Thousands of tons)

AÑO	CO ₂ Emissions	CO ₂ Absorptions	CH ₄ Methane	N ₂ O Nitrous Oxide	NO _x Nitrogen Oxides	CO Carbon Monoxide	NM VOC Non methane volatile organic compound	SO ₂ Sulphur dioxide
1990	7, 489.62	-42, 903.73	199.56	20.71	43.79	961.66	105.95	74.50
2000	21, 320.82	-37,460.17	230.29	55.33	89.72	1, 651.45	3, 256.85	75.15
Diferen cias	13, 831.20	-5,443.54	30.74	34.62	45.93	689.80	3, 150.90	0.65

1990 GHG: MARN. 2001. Tercera Comunicación Nacional sobre Cambio Climático

2000 GHG: MARN. 2007. Proyecto Fortalecimiento de las Capacidades Nacionales en Sistematización de Inventarios de Gases de Efecto Invernadero y Comunicaciones Nacionales

The information regarding greenhouse gases for Land Use Change and Land Use Change and Forestry for Guatemala is provided below in Table No. 5. As said before, the 2000 data are preliminary.

Table N. 6 Sectorial Greenhouse Gases for Land Use and Land Use Change and Forestry
(Thousands of CO₂ tons)

Land Use Change and Forestry	Emissions		Absorptions	
	1990	2000	1990	2000
A. Changes in Forest and Other Wood Stocks: Tropical Forest			-27,871.93	-25,963.76
B. Forest and Grassland Conversion: Tropical Forest	3,244.6	10,742.2		
C. Abandonment of Managed Lands: Tropical Forest			-2,967.73	-10,173.95
D. Soils			-2,064.07	-1,322.46

1990 GHG: MARN. 2001. Tercera Comunicación Nacional sobre Cambio Climático

2000 GHG: MARN. 2007. Proyecto Fortalecimiento de las Capacidades Nacionales en Sistematización de Inventarios de Gases de Efecto Invernadero y Comunicaciones Nacionales

The Ministry of Environment and Natural Resources-MARN is reviewing the figures for 2000 abiding by the Second National Communication on Climate Change and it is working in the evaluation of the national GHG inventory for the year 2005. This task is expected to be finished by autumn 2009.

From data provide in Table No. 5, between 1990 and 2000, there has been a loss in the carbon stocks (close to 12 million tons of CO₂) and in soils (about 0.7 million tons of CO₂). On the other hand, the country has had an increase of more than 7 million tons of CO₂ produced in managed lands.

c. Please describe what data are available for estimating deforestation and/or forest degradation. Are data published?

Describe the major types of data, including by deforestation and forest degradation causes and regions if possible (e.g, area covered, and resolution of maps or remote sensing data, date.)

i. "Dynamics of the Forest Cover of Guatemala during the years 1,991-96 and 2,001" and the "Map of the Forest Cover 2,001". Published in February, 2006

"Dynamics in the Forest Cover of Guatemala during the years 1,991-96 y 2,001" and the "Map of the Forest Cover 2,001"

The Project "Dynamics of the Forest Cover of Guatemala during the years 1991, 1996 and 2001" and the "Map of the Forest Cover 2001" represents an effort, on a national level, to develop a map that may determine the rate of deforestation, based in the interpretation of satellite images.

The Project was completed in two phases: the first is the presentation of the Map of the Forest Cover of Guatemala for the year 2001, published in February, 2006. The second phase of the Project focused in comparing images of 2001 with images of 1991-93 and 1996, to determine the exchange-rate for the forest cover. In such a way, it was estimated that between 1991/93 and 2001, the country lost 73,148 hectares of forest per year with an annual deforestation rate of 1.43% (see Table No. 2).

National Map of Forest Cover

During the period of 1,991/93 Guatemala had 5,121,629 hectares of forest; by the year 2,001 it was estimated a forest cover of 4,558,4543 ha. It was estimated that during the period of 1,991/93 – 2,001 there was a loss of 717,075 hectares of forest.

Nevertheless, during that same period 153,899 hectares were recuperated; the net loss was of 563,176 ha. of forest (Table No. 7).

Table N. 7 National Net Change 1991/1993-2001

Region	No Forest change (ha)	No change NO Forest (ha)	Loss (ha)	Change 91/93-2001 (ha)
Total Country	4,404,554	5,349,428	(717,075)	(563,176.00)

Dynamics of the Forest Cover of Guatemala during the years 1,991-96 and 2,001 and *Map of the Forest Cover 2,001*

ii. National Forest Inventory of 2002-2,003". INAB-FAO. Published in April, 2005

Summary of the Results of the Inventory "National Forest Inventory of 2002-2,003". INAB-FAO

The Government of Guatemala, through the National Forestry Institute requested FAO's technical and financial support to elaborate the National Forest Inventory for the period 2002-2003. This inventory was developed through a design of systematic stratified sampling. The layers used, divide the country in three regions: north, center and south, considering physiographic, geological and climatic parameters. Socio-economic and ecological conditions were also considered. Information was gathered regarding the extension of forests and areas outside the forest. The information provided relates to the forest extension, according to the regimen of properties and designation of its use, as well as the existence of forestry resources, timber and three non-timber products (xate, bayal and wicker).

The data gathered is related to the use of non-timber products from the forest, the use of services from the forests, its use and its forest management, and the state of the populations that live near the forests. According to the results of this study, the extension of the forests in Guatemala is of 4,046, 015 ha, equivalent to 37.1% of the total surface of the national territory. This cover includes 30.6% of broad leaf forest, 3.7% of conifers and 2.9% mixed. 38% of the forest is private property, 34% is governmental, 23% municipal-communal and 5% not determined.

The institutions that participated in the study were: The National Forestry Institute (INAB), the Council for Protected Areas (CONAP), University of Del Valle of Guatemala (UVG) and the Forestry Action Plan for Guatemala (PAFG).

Forest surface and areas outside the forest

In the table No. 8 the surface of the areas with forest is presented, areas outside the forest, interior water and unknown surface.

Table N. 8 Surface of the Forests

Use of the land	Surface (ha)	% surface of the country
Forest	4,046,015	37.1
Outside the Forest	6,412,780	58.9
Interior water	207,838	1.9
Unknown	222,341	2.1
TOTAL	10,888,974	100.0

*National Forest Inventory 2002-2,003". INAB-FAO

The data of the forest surface was also estimated through the mapping done by satellite images, Landsat TM 2001-2002 presented in the Map of the Forest Cover of the Republic of Guatemala 2003 (University of del Valle of Guatemala et al. 2003). In this map, a forest surface of 4,357,746 is reported, equivalent to 39.9% of the total national territory. The classification of the forest used to elaborate this map was the same used in the IFN 2002-03 obtaining practically the same results. In Table No. 9 a classification of the forest cover by type of forest is presented.

Table N. 9 Type of Forest

Type of Forest	Surface (ha)	% surface of the country
Latifoliado	3,336,435	30.6
Coníferas	396,939	3.7
Mixed	312,641	2.9
TOTAL	4,046,015	37.2

*National Forest Inventory of 2002-2,003". INAB-FAO

Surface of the forest according to the designation of its use

The classification according to the designation of the forest only allowed identify if they were within the protected areas or outside of them. The majority of the forest is outside the protected areas (59.4%) These are mostly found in the western and central highlands. Most of the forests within protected areas (40.6%) are found in the northern region of the Department of Petén. In the Southern region, forests were only reported outside protected areas, since these areas are very small.

The reported data relates only to deforestation and to forest cover and does not give information regarding degradation values.

Guatemala does not have any figures for degradation.

3.d) What are the main causes of deforestation and/or forest degradation?

The deforestation problems in Guatemala have various causes which may be grouped in three categories: structural, direct and indirect.

i. Structural Causes:

According to the study of "Tendencies and Perspectives of the Forest Sector of Guatemala (INAB and FAO, 2005)" among the main structural factors that influence deforestation, the most important ones are population growth, forest culture, education, poverty, land tenure and distribution of land.

Population Growth: The Population growth, especially in poor areas, is a phenomenon that is linked with the agricultural border. The increase of population places more demand on the land for crops and requires a larger quantity of forestry products (wood for rural constructions, agricultural use and for energy resources).

The increase in the population density in poor zones exercises more pressure each time over the land and the lack of economic non-farming options, forces the peasants to search for land outside their place of origin. This factor has provoked massive migrations towards national land, generally covered by forests and especially in the Department of Petén where most of the land belongs to the Guatemalan Estate. This increase in population density has been the cause of more than 30 % of the reduction of tropical forests in the south of Petén between 1986 and 2000, according to the "Analysis of Biodiversity in Guatemala (FIPA/USAID, 2002)".

Forest Culture: It has been evident there has been little development in forest culture due to the scarce knowledge or interest from the population regarding: i) the potentiality of the resource of the forest; ii) the development opportunities that the forest may represent to the country; and, iii) the role that the forest plays as provider of environmental services. Even though the majority of the soils are of forest vocation, a farming culture has been developed promoting agricultural activities in detriment of the great natural potential that the forests have for the country.

It is necessary to recognize that the various actors of the forest sector have had little capacity to show to the Guatemalan society successful cases of good practices in forest management, a situation that has awakened a lack of trust towards the activities of the use of the forest. This has generated conflict among communities, municipal governments, and the private sector and responsible institutions of the forestry administration.

Education. According to the report "Guatemala: The financing of the Human Development (PNUD 2001)" the educational urban gap increased in Guatemala throughout the decade of the 90's since in the urban areas, the schooling expanded more rapidly than in the rural areas. At the end of the 90's the schooling of the workers in urban areas was almost three times larger than those of workers in rural areas. This situation promoted urban dwellers to be more sensible regarding the environmental topic.

In the Report "Support to the Follow-up of the Forest Agenda of Guatemala 2002-2012 (MAGA-PAFG, 2003)" it is mentioned that the educational national system does not include within its study curricula, contents that may contribute in an effective way to a forest and environmental culture. At the same time, there is a lack of non formal educational programs focused in the management and conservation of forest resources directed to adults and the population that does not have access to programmed education.

Poverty. Extreme Poverty and lack of economic alternatives and opportunities for the use of nature as a source of capital, are the main structural causes for the loss of natural forests in the country. Poverty and deforestation are linked together due to the high rate of non-farming unemployment in the rural areas. The existence of other working alternatives creates a restriction that frequently forces them to execute low-paid activities.

According to the "Support of the Follow-up of the Forest Agenda of Guatemala 2002-2012 (PAFG-IARNA, 2002)" the Guatemalan population that consumes firewood is predominantly the rural one and within this sector, mostly are poor or very poor. These very poor sectors of the population live in marginal areas of the main cities of the country.

Land possession and land distribution. In the "Forestry Decentralization and Life Strategies in Guatemala (Larson y Barrios, 2006)" research, it was found that possession of land is a problem not just because of the lack of titles and insecurity but also because of the uneven distribution of land. The generalized rural population with small holdings and the indigenous people in particular are a problem, due to the codependence of the indigenous populations for cooperative and communal rainforests which

use wood, firewood and other resources. Petén's land fragmentation in thousands of little fields of less than 49 hectares which have been used for stock breeding and for agriculture, are the reasons for the rainforest fragmentation and the loss of it.

The lack of legal certainty in land possession and land ownership of forestry land with or without rainforest is also a common element in the rural land that at the same time becomes a restricting factor for developing forest. In the first instance, there is the restraining factor of the access to financial sources and on the other hand there is uncertainty in private investments in long term activities such as silviculture. According to the report "Poverty, Deforestation and its eventual implication in Guatemala's Biodiversity (Loening y Markussen, 2003)" there is less deforestation where the legal property rights are best regulated,

ii. Direct Causes

Among the direct causes of deforestation in Guatemala we can find: i) Land use change ; ii) firewood consumption; iii) Forest fires; iv) Forest diseases and plagues; and, v) Illegal logging with industrial purposes.

Land use change . Throughout history, the main cause of deforestation has been the substitution of rainforest to farming activities. The is no exact figure of what this has represented or represents the change in the use of rainforests to farming activities, but according to the Dynamics in the Forest Coverage of Guatemala report, 64.82% of the changes in Petén in forest coverage between 1991-2001, it is considered that it was mainly due to the advance in the farming frontier. The change of use of forest to other uses (mainly farming), is relevant especially regarding the promotion of African palm oil in the northern side of the country and the use of corn for biofuel production.

Firewood consumption. More than 60% of the homes use firewood as the main energetic source for cooking. There is no exact figure on firewood consumption in the country: according to the National Institute of statistics (INE) the number of houses that use firewood raised from 1,265,590 (2002 census) to 1,746,352 reported in the National Survey of Consumption and Housing – ENCOVI-2006.

Preliminary data on the energy count obtained by the project "Count on the Environment" of the Agricultural, Natural Resources and Environmental Institute, with the data of the ECOVI 2006, point out that firewood consumption in the country is aproximately 20 million m3 by year.

According to Larson and Barrios' report of "Forest Decentralization and Life Strategies in Guatemala (2006)" state that total use of Wood in Guatemala is 94% (13.8 million of m³), and it corresponds to firewood as the most important energetic source for poor people in the country. According to INAB's statistics, the average volume authorized in 1999 to 2006 for Wood, was just 388,162 m³. This shows that there is little control of firewood use in the country, and also that the use of has not been deeply analyzed.

Wildfires. Statistics of the National Forestry Institute show that 32% of the wildfires are originated by agricultural activities, 15% are of oversights, 27% intentional wildfires and a 26% because of unknown reasons. The Table No. 10 shows the area affected by fires from 1998 to 2007.

Table N. 10 Affected areas caused by fires (1998-2007)

Year	Hectares		Total
	Forest	No Forest	
1998	678,795.00	NI	678,795.00
1999	10,623.10	NI	10,623.10
2000	53,404.80	NI	53,404.80
2001	18,768.19	3,383.21	22,150.40
2002	17,937.80	4,449.60	22,387.40
2003	60,119.33	22,848.98	82,968.30
2004	6,702.67	760.06	7,462.73
2005	34,157.22	58,397.33	92,554.55
2006	12,411.90	2,664.80	15,076.70
2007	18,756.98	37,289.00	56,045.98

Inab-Sipacific, 2007

Pests and diseases. Several pests and diseases have affected the pine forests. During 1980, the amount of 100,000 hectares of pine was destroyed because of the pine weevil (*Dendroctonus* sp).

Illegal Logging. There are no exact data of what illegal logging represents; the estimations achieved in 2003 (First approximation to the quantification of illegal logging in Guatemala) point out that illegal logging for timber production for industrial transformation represents 30% to 50% of the commercial wood volume reaped by year. The INAB statistics indicate that the average annual volume of wood authorized in the period of 1999/2006 was 959,443 m³; If we add to this amount to the data reported by CONAP,

we get the figure that the controlled volume of wood is from 1 to 1.2 million m³ by year.

iii. Indirect Causes

Among the indirect deforestation causes are: i) High unemployment rate in the rural area; ii) Corruption; iii) Culture of clean crops; iv) Institutional weakness in monitoring and control; v) Flaws in market intermediation; vi) Financial Market; and, vi) Public policies.

High Unemployment rate in the rural area Poverty and deforestation can be associated with the low frequently offer of non agricultural jobs in the rural area. The lack of other working choices and the lack of land for agriculture, forces the rural population to exercise low paid activities or to transform rainforests into non sustainable agricultural systems for farming.

Corruption. There is the perception that responsible authorities make little effort in confiscating illegal forest products. The corruption problem are being reflected in the survey made in 2007 by GuateAmala, on how Guatemalans look at their problems and towards the future of the country". In the question "What is the biggest problem in Guatemala today?" 34% of the interviewed people answered that corruption was the biggest problem, understanding that corruption is the worst curse of our times in public and governmental services (Prensa Libre, abril 2008).

Culture of clean crops. American cultures except Darien in Panama and the Amazonia Region practice the culture of clean crops based in an annual basic crop. In the specific case of Guatemala, corn has forced the dwellers to deforest big tracts of land; we also have to add that corn has been harvested without taking into account practices and structures for soil conservation. In Guatemala, the original dwellers of Petén exercise little pressure on the broadleaf rainforests; this is due to the sustainable management of gum-latex and peppermint forest products. The deforestation in Petén has increased due to the migration of farmers, especially from the Eastern side of the country that are more familiar with farming and the culture of cattle grazing.

Institutional weakness in monitoring and control. In the legal and institutional field, it is well known that there is a weakness in public institutions that do not exercise responsibilities in the administration and control of rainforest use, in the application of justice nor in stopping illegal forest acts. This fact also contributes to the existence of the vacuum and contradiction of applicable norms regarding illegal logging in Guatemala. The lack of information and complexity in the procedure and requirements to achieve legality on behalf of the forest users, are factors that add up to this situation.

Flaws in Market Intermediation. The intermediation is performed by people who without owning or possessing the right of the use of the forest, have an interest in obtaining forest products. They directly become part of the commercial channel of these products, fundamentally between the use of wood and its latter transformation for primary industry.

In many cases, the intermediaries have been the main cause for non compliances for the commitments acquired when having forest licenses or in the actions to guarantee the sustainability of the resources.

Financial Markets. The forest resources overcome challenges such as (i) periods of return capital of forest activities takes much longer than most of the other agricultural and farming activities, (ii) the contributions in forest ecosystems to collectivity (environmental services) do not represent direct monetary income to the rainforest owner, (iii) Conservation and rainforest management are not considered a viable economic alternative for land owners. Due to this, the national banking does not consider the establishment and management of forest plantations and natural rainforest management with productive means as credit subjects. This situation influences land owners to use their forests in other productive activities.

Public Policies. Not long ago, public policies, have been oriented exclusively to farming development, including encouraging farming activities in forest or rainforest lands. In general, the policy instruments, such as soft credits and land access, farming commerce generation and technology transfer in industrial development have left aside the environmental goods and production of services, except for the funds destined to the Incentive Forest Program (PINFOR).

In general there has been a lack of knowledge of the importance of rainforests as an economic asset of the nation that can contribute to sustainable development. In the last decade there have been important changes in land access policies and the creation of credits and economic incentives that have been promoting forest activities.

3.e) What are the key issues in the area of forest law enforcement and forest sector governance (e.g., concession policies and enforcement, land tenure, forest policies, capacity to enforce laws, etc?)

- **Lack of adequate mechanisms for environmental law enforcement.** Although there are provisions in the legal and policy framework, the current capacities of the entire system of institutions are very limited and there is a lack of forest law enforcement. This situation is clearly reflected in the scarce allocation of public budgets for the forestry-related institutions which in consequence are limited in their capacities to work in the field and particularly to guarantee the integrity of protected areas which often suffer from invasions by different social groups.
- **Land tenure rights.** There are still lands in the country where property rights are not clearly defined and owners do not feel full responsibility to conserve forests or to invest in their sustainable management since there is no certainty on their capacities to enjoy future returns of investments.
- **Lack of integral valuation of the forests.** Forests continue to be seen mainly as a source of wood. Policies are not defined to highlight the full range of values included in forest and forest ecosystems. In addition, there are a lot of constraints related to the capacity of forest monitoring and evaluation, in particular in national protected areas that need to be reinforced.

4. What data are available on forest dwellers in land potentially targeted for REDD activities (including indigenous people and other forest dwellers)? (e.g., number, land tenure or land classification, role in forest management etc).

In the Context of the use of the land, in Guatemala there is a figure of communal land, which according to the Diagnosis of Conservation and Management of Natural Resources in Communal land in Guatemala published by CONAP in the year of 2008; these are areas where the right of land tenure, possession, and property of the land correspond collectively to a community or to a determined social group. This same concept appears in the "Law of Property Land Information Registry (Decree 41-2005)" which indicates in Article 23 that "Communal lands are the property, possession or tenure of peasant or indigenous communities as collective entities with or without legal jurisdiction. This is land that traditionally has been possessed or taken by the communal regimen, even though they may be registered under the name of the Estate, of municipalities or individuals".

In Guatemala, the communal land is recognized in various ways: (i) land that is owned by communities (communal lands); (ii) those that are used by the communities but with municipal titles (municipal land); (iii) those that in an indivisible manner are owned by several communities through certain relatives (partialities); (iv) those that are formed as a condition to have access to the land and management of natural resources (Cooperatives, forest communitarian concessions, collective agrarian heritage and the association of peasant enterprises); y, (v) other land and communal spaces.

According to the Diagnosis of Conservation and Management of Natural Resources in Communal land in Guatemala there are **1,307 cases** of communal land with a total extension of 1,577,124 hectares. This land is found in all the cultural regions and in all ecological zones of the country. In this report, it is mentioned that the Communal Land represent 45% of all the cases with 39% de of the surface; that the municipal land constitute (31%) of the cases and contain 30% of the land. The cooperatives are 7% of the cases and these have 10% of the land; the communitarian concessions have 1% of the cases, with 25% of the surface; the collective Agrarian Heritage are 4% of the cases with 3% of the land, the usufructuary of the national land are the 3% of the cases with 3% of the surface and finally the other communal land with 4% of the cases with 1% of the land.

The previous information complements with the results of the "National Forest Inventory 2002-2003" prepared by the National Forestry Institute in which it was estimated that the area of forest use by property regimen was: a) area of national forest 1,367,731.60 hectares; b) area of municipal forest 341,753.90 hectares; c) area of communal forest 592,875.70 hectares; d) area of private forest 1,531,133.20 hectares; and, e) area with another regimen to the previous ones 212,520.80 hectares.

Even though the largest number of communal land has been found in Departments with higher concentration of indigenous people, there is also communal land in mixed racial communities or in non indigenous regions. This demonstrates that the idea of maintaining land in a communal way is strategic and has been used by communities to obtain better benefits in the use of the land, forests and water, aside from also being a way to achieve a better social cohesion and a more solid communitarian identity.

According to the presented information in the diagnosis, the communal land have allowed the conservation of the natural resources in the following aspects:

- They are spaces that have been protected long ago by the communities.
- They contribute to the production and protection of the water resources
- They serve as a space for the reproduction of species of plants and animals
- They contain sacred places used by indigenous peoples.
- They have a cultural and cosmogenic value that contributes to the care for nature

It is considered that communal land also contributes to the sustainable management of natural resources because:

- They have developed knowledge and techniques that contribute to the management of resources, such as the natural regeneration of mangroves by the communities of the seaboard down at the Southern Coast; the control of forest fires in the Highlands, the management of non-timber products of Petén and the care of micro-basins in the higher areas of the country.
- They have developed adequate communal management based in organization and local norms, allowing the use of the resources and a more equitable distribution of the benefits.
- They have done efforts to improve the conditions of the forests, especially with forest incentives.
- They have respected and protected the sacred places.
- They have started productive projects respecting nature, such as ecotourism, sustainable management of the forest, management of natural regeneration, and the use of non-timber products.

5. Summarize key elements of the current strategy or programs that your government or other group have put in place to address deforestation and forest degradation, if any:

i. Guatemalan System of Protected Areas (SIGAP): This system is based in the management and sustainable use of natural resources in all forms of protected areas (Private Natural Reserves, Communal and Municipal Forests, among others). Guatemala has 241 registered protected areas (3.3 Ha million) and each one has its own management category in which different activities are allowed. (See Annex 3). It is important to highlight that many of these areas are not fully protected mainly due to the lack of adequate human, technical and financial resources and the REDD strategy would generate additional elements to design new policy measures.

ii. Forest Concessions: Integrated community and private sector concessions are legal agreements between the Guatemalan State and the community concessionaire that provides exclusive rights to sustainable forest management resources in a designated geographical area, in exchange for fees and protection responsibilities. In addition, community concessionaires must abide by established terms of low-impact extraction. Community-based concessions represent the first mechanism approved and implemented by the Guatemalan government to recognize the legal right of Petén forest communities to their resource heritage. They are located in the Maya Biosphere Reserve (RBM) in Petén, Guatemala.

iii. Forestry incentive program (PINFOR): In 1997, the PINFOR program was created as a forest policy instrument to promote greater incorporation of the Guatemalan population in the forestry sector. PINFOR promotes investments for establishing commercial forest plantations, sustainable use and management of forestry resources while pursuing environmental goals. PINFOR consist of an economic instrument that provides cash payments for one year of forest establishment and up to four years of maintenance and 5 years to those who propose reforestation and management of natural forests. The program has protected about 160,000 ha of natural forest; the financial funds come from public funds through the national budget assigned to INAB.

iv. Small stakeholders incentive program (PINPEP): This program is managed by the National Forestry Institute –INAB-. It started on 2006 and will end in 2012. The main objective is to incorporate participation of those small stakeholders that have secured property rights. These stakeholders are mainly social organized groups (men and women) that could become managers of their own community development. The project is oriented towards two main activities: a) natural forest management for protection and production and, b) the establishment and management of agro-forestry activities. The owners with property titles in forested lands receive economic incentives for five years, and the owners with property titles of agro-forestry activities receive economic incentives for the establishment of the project and two years incentive for its maintenance.

v. Pilot Program of Direct Support to Forest of the Ministry of Agriculture, livestock and food (PPAFD-MAGA):

This program started in 2002 and will end by 2009. The PPAFD consists on the sustainable protection and conservation of natural forests of Guatemala by paying for conservation activities to protect the forest and water resources. This payment reduces the agricultural activities (change on land use) and is seen as a payment for environmental services for the water production. The monetary incentive is provided to the beneficiaries (stakeholders, communal, private and municipal owners) for 5 years and currently involves 11 of the 22 political regions of Guatemala in areas above of 1,500 msnm (meters over sea level). Some of the successes that this program has achieved are:

- 33,400 ha of natural forest under protection (220 registered owners).
- Protection of 3,000 water sources that supply water to 67 municipalities, 72 rural communities and 81 individual persons.

- Promoting productive forest activities in 6 farms (production and sale of certified seeds)
- Enforcement on forest activities in rural areas.

Despite these national efforts deployed by different institutions of the Government, deforestation continues to be a major problem in the country and additional measures need to be taken. The REDD project is expected to contribute to further advance towards the goals of maintaining forest cover.

a) What government, stakeholder or other process was used to arrive at the current strategy or programs?

The above mentioned strategic measures the result of the policy responses of the Government during the last decades in trying to deal with the problem of deforestation. The SIGAP (Guatemalan Protected Areas System) was created through several laws where more than 70% has been based upon territorial ordering that the government has developed for the department of Petén in the former FYDEP (Fomentation and Developing of Petén). By using this law, there have been established areas to take conservancy and forest advantages.

The forest grant were created as an instrument to manage the multiple uses zone of the Mayan Biotical Reserve which constitute an area of 600,000 ha given to 10 industrial communities. In this process, was given priority to communities that historically have been established in these areas.

The PINFOR was created as an instrument of Forest Law to foment the establishment of forest plantations and natural forests with the purpose of sustainable managing or conservation, financed with public funds. This is administrated through a Steering Committee represented by the Government, Universities, ONG's and private Organizations, having the representation of all sectorial actors.. It is important to emphasize that this Program finishes in 2,012 and there is necessary cooperation to continue it.

b) What major programs or policies are in place at the national, and the state or other sub national level?

Most strategic measures taken by the government are at national level but some geographical and socioeconomic criteria are also followed according to the objectives of each program. On the other hand, despite of having the responsibilities of Municipalities within their own circumscriptions, their performance in environmental issues are mostly related to some water protection projects, where combined efforts are implemented with central government institutions.

- Guatemalan System of Protected Areas (SIGAP): To be developed in a national level with diverse ecosystem representativeness.
- Forest Concession : at the north area of Guatemala- Department Petén
- Forestry incentive program (PINFOR): at national level
- Small Stakeholders incentive program (PINPEP) : is developed in 67 identified areas of extreme poverty
- Pilot program of Active Direct Forest of the Ministry of Agriculture, Livestock and Food (PPAFD-MAGA): Established in strategic watersheds of the West and center Highlands of Guatemala.
- Registry of Cadastral Information: It's supporting the regularization of the holding of the land, as a mechanism to have legal certainty of the land, which will influence to improve the management of natural resources and in some areas, to stop the advance of the agricultural frontier and the invasions in protected areas.
- Law of Regional, Municipal and Communal Development Board, which allow mayor local participation in making decisions and influence local implication in the measure of the resources and their preservation ; among them is the forest.

6. What is the current thinking on what would be needed to reduce deforestation and forest degradation in your country? (e.g., potential programs , policies, capacity building, etc, at national or sub national level):

The deforestation and degradation of forests occurs mainly due to structural causes (see section 3.d) such as population growth, forest culture, education, and poverty and land tenure. There are also other direct causes that have an influence, such as 'land-use change' firewood consumption as a source of energy in rural, and urban marginal homes, forest fires, plagues and diseases and the illegal logging for commercial use. In an indirect manner, these causes contribute to high unemployment in the rural areas, corruption, and culture of clean crops, institutional weakness, flaws in the intermediation and finance market and public policies oriented only to the development of farming.

Reduction of deforestation and conservation of biodiversity are the main objectives of the current Forestry and Protected Areas

Policies. The strategic lines of both policies related to the use of the land, are being oriented to strengthening SIGAP, the promotion of natural forest management of forestry (silviculture) plantations and agro forestry systems.

What the policies presently search for is: the revalorization of the natural forests when being incorporated to the productive activity, contributing to reduce the advancement of the farming boarder, the recuperation of the areas with forestry vocation and the restoration of the productive base in land with forestry vocation through the promotion of agro forestry and silvopastoral systems. All of this is bound to contribute to the offer of non-farming jobs in the rural areas and the generation of goods and forestry services that may improve life conditions of the poorest population.

To achieve these objectives in Guatemala, some programs have been established such as:

- Guatemalan System of Protected Areas (SIGAP) oriented to conserve our biological diversity in Guatemala. By 2008 SIGAP had 241 registered protected areas within 3.3 million hectares.
- Forest Concessions established to promote the sustainable forest management in the zones of multiple use of the Mayan Biosphere Reserve. The protection of 480,000 hectares has been achieved
- Forestry incentive program (PINFOR) destines 80% of the resources for the reforestation of land without forest cover and 20% for the management and protection of natural forests. This program started activities in 1997 and will conclude in the year 2016. To date, this program has invested more than US\$ 125 million achieving 84,462 hectares of new plantations and 162,000 hectares of natural forests managed and protected.
- Small land tenure incentive program (PINPEP) oriented to the reforestation, management of natural forests and implementation of forestry systems. This program started in 2006 and it ends in the year 2012. Up to 2008, this program has invested more than US\$ 1,617,500 reaching 410 hectares of reforestation, 540 ha of agro-forestry systems, 671 ha of forests of low management and 3,265 ha of forests under protection.
- The Pilot program for the support of natural cloud forest conservation (PPAFD) started in 2002 and will end by 2009. The PPAFD consists in direct financial incentive for forest owner/tenures for protection and conservation of natural cloud forests in Guatemalan highlands to reduce the land use change. At 2008 this program had achieved 33,400 ha of natural forest under protection (220 registered owners).

In order to establish coherent process to overcome deforestation and forest degradation as a part of the REDD strategies are required the following:

- Develop the analysis of the main instruments of public policies of the existing land-use, such as the agrarian sectorial policy, the forestry and protected areas, to harmonize them for (i) the strategic planning oriented to the zoning land demarcation or territorial planning of the country, with the framework of the National System of Strategic Territorial Planning; (ii) consolidate and strengthening existing financial instruments (PINFOR, PINPEP, PPAFD) that have demonstrated a great degree of success but that have a determined period of time to end; (iii) strengthen programs of land-tenure regularization and, (iv) establish actions for the recognition of the right of the use of the resources to dwellers that do not own land.
- Establish a specific strategy to take care of the topic of firewood consumption in the country that considers mainly the improvement of the energetic efficiency in the employment of firewood and its provision in a sustainable manner towards the communities. In such a way, we expect to reduce pressure over the natural forests.
- Strengthen the application of justice, especially in areas where there are governability problems, such as the case of the Department of El Petén. There are various causes that motivate deforestation which are being promoted by narcotic activities and invasions in protected areas of the localities.
- Promote environmental education to all levels of the civil society, especially related to natural resources.

a) How would those programs address the main causes of deforestation?

To confront deforestation, it is necessary to know the causes that motivate it; for this, adequate mechanisms are required, These should be adapted to national reality. When consolidating and strengthening existing financial instruments, known by the population, we can count with a certain degree of success, against deforestation.

The financial instruments such as PINFOR, PINPEP and PPAFD allow the owners of forests, the necessary economic resources to motivate the good-use of the soil and reduce deforestation in certain areas. The implementation of activities that will strengthen the application of justice, especially in protected areas where we find low governability and many outlaw activities, such as invasions and drug dealing. These will improve governability and therefore, promote conservation of natural existing areas.

The SIGAP establishes the legal framework with a series of tools oriented to the protection and conservancy of the protected areas (master plan, zoning, management plan, etc.) In spite of this legal framework, it has weaknesses in the practice

(financing, technical, legal, etc.) that limits its application and the results are high rates of deforestation within this area. The reinforcement of SIGAP's legal framework will allow, improving its function, the consolidating of areas that still present a good level of conservancy and the recovery of the areas that have been degraded (e. g. National Park Laguna del Tigre).

As it was explained previously, the basic priority will be the reinforcement of the application of the law to environmental crimes (land usurpation, illicit destruction of trees, etc.), the application of justice and combat of illegal activities. These activities will be the basis to stop the deforestation at the so called protected areas where most of the deforestation of the country takes place.

The harmonization of the politics may avoid antagonism to the initiatives and instead, it can create a good synergy to achieve their effectiveness. High teamwork is important and will influence the right consensus, not only in the politics but in the prioritization and redirection of the financial resources.

b) Would any cross-sectorial programs or policies also play a role in your REDD strategy (eg, rural development policies, transportation or land use planning programs etc)?

As part of the implementation of a possible strategy REDD, the country has proposed a revision and harmonization of the main instruments of existing public policy such as:

- Strategy for the Reduction of Poverty
- Zoning Land Demarcation Registry and information
- Territorial Planning on a Municipal level

The decentralization of the councils of development allows reinforcing the local power and measure natural resources that will affect in the conservancy of forest topics, as is the case of the communal and municipal forests. The energetic policy regarding the use of firewood will be revised. In spite of the fact that there are existing strategies and working plans, they have not been evaluated as part of a unified strategy. This must be one of the main activities during the design of the R-PLAN previous to its approval on a national level.

c) Have you considered the potential relationship between your potential REDD strategies and your country's broader development agenda in the forest and other relevant sectors? (eg, agriculture, water, energy, transportation). If you have not considered this yet, you may want to identify it as an objective for your REDD planning process.

As it was previously mentioned, the reduction of emissions from deforestation and forest degradation has complex social and economic roots and these causes can only be overcome through national development policies and strategies as well as from the environmental policy perspective. Many of the solutions will not fall within the competencies of the entities of the forestry public sector, but moreover, it will definitely require a different approach involving institutional and cross-sectorial planning and implementation.

The process of building a national climate change strategy must also incorporate several economic sectors who are addressing national development issues with the purpose of harmonizing them with the expected actions, within the REDD strategies. It will be necessary to establish a plan to work institutionally with the revision of national existing policies, mainly those related to the use of the land and rural development.

d) Has any technical assistance already been received, or is planned on REDD? (e.g., technical consulting, analysis of deforestation or forest degradation in country etc, and by whom):

Offers of technical and financial support have been received from the coalition of NGO's that work in the environmental topic such as Rainforest Alliance (RA), Conservation International (CI), The Nature Conservancy (TNC), WWF, UICN-ORMA and technical support from Tropical Rainforest Foundation (TRF). Some of these organizations such as RA, TNC, CI, and TRF have given support in the elaboration and revision of the proposal for the R-PIN of Guatemala.

On the other hand, some of these organizations have been developing actions oriented to formulate demonstrative projects on a local and on a regional level. Within the promoted activities of these organizations, support has been offered to consolidate some governmental entities and strengthen the launch of the REDD national strategy. Within the offered support is the management of resources for the implementation of field actions, as well as the support for the promotion and sale of possible emission reduction credits in the existing carbon potential markets.

7. What are your thoughts on the type of stakeholder consultation process you would use to: a) create a dialogue with stakeholders about their viewpoints and b) evaluate the role various stakeholders can play in developing and implementing strategies or programs under FCPF support?

Since 2005, Guatemala has established an Indigenous Peoples Promoter Group who is working with MARN, CONAP, INAB, the Ministry of Culture and the Ministry of Foreign Affairs. A series of nongovernmental organizations are also participating in the consultation process, such as FUNDAECO, CALMECAC, AKTENAMIT, BIO ITZA and SOTZIL (the last three are indigenous ONG's). Furthermore, the University of del Valle is also playing an important role in the consultation process.

Regarding REDD initiatives; three workshops have taken place in 2009 where key stakeholders have participated. The first one was the Mesoamerican Workshop on Indigenous People and Climate, held in Panajachel, located in the rural areas, specifically on the Western region of the country with the participation of more than 100 attendees. Also, in February 2009, other workshops in Antigua Guatemala a two days national workshop on REDD was celebrated (50 representatives). Both workshops were summoned by MARN with the support of NGO's. The Foreign Affairs Ministry also celebrated a workshop on Indigenous People and Climate Change on February 13, 2009 with 30 participants.

It is deemed necessary to have a permanent dialogue mechanism with the viewpoints of stakeholders and to involve them in the different steps of the process of designing the REDD strategy. This kind of permanent dialogue, used in different programs and projects is already under implementation.

a) How stakeholders are normally consulted and involved in the forest sector about new programs or policies?

Consultation process is regularly conducted in three levels: national, sub-national and by theme issues.

i. National. The consultation process has been done by the National Forestry Program that is actually seeking to establish a Forest Consultative Group. This is expected to be an instance of policy and strategic conduction with institutional representation of the main governmental organizations and networks related to forestry in the country, and will deal with national relevant issues.

ii. Sub-National. Agreement Forum Boards are regional sector forums of discussion integrated by the private sector, nongovernmental organizations, government and local authorities, among others. These forums are located in 9 geographical regions of the country (sub-national) and the discussion is based in four subjects: a) forest conservation and protection, b) production and sustainable use of forests, c) trade and industry and d) environmental services. Related subjects also include: education and capacity building, information and research and competitiveness and financing.

iii. Thematic Discussion involves specific issues such as: a) forest certification, b) forest competitiveness, c) environmental services and d) financial mechanisms.

Other mechanisms used are: (i) meetings and workshops to inform people on new and proposed programs, how will they work to achieve sustainable forest management and when it is going to start and the most important of all, why it has to be done. In this kind of meetings, stakeholders assure their benefits as owners of the land; (ii) conversations with communitarian leaders; (iii) through urban and rural development councils. (see Annex 5 for more information of how are this councils organized). This is an important process in order to know if stakeholders are willing to accept different activities to be carried out in their land as part of the program and guarantee its success.

Regarding biodiversity issues, there is ASOREMA (Non Governmental Organization that conglomerates more than 25 NGO's) which is another mechanism used for consultation processes. This organization promoted the reactivation of the Environmental Council created in 2006 (never been active) and was presided by the President of Guatemala. In this Council, environmental issues are discussed, mainly those related to ecological integrity, illegal biodiversity trade, environmental vulnerability and forest degradation.

b) Have any stakeholder consultations on REDD or reducing deforestation been held in the past several years? If so, what groups were involved, when and where and what were the major findings?

No specific consultation has been held regarding REDD or the reduction deforestation initiative. However, in the last 3 workshops held in February 2009 some related issues were discussed as part of the process of climate change mitigation and its options. For

purposes of the REDD proposal, discussions were maintained internally among collaborators, including governmental and nongovernmental actors, but not in a broad scale.

It is expected that as part of the implementation of the REDD project, wider consultations will be conducted with the involvement of relevant sectors and stakeholders.

c) What stakeholder consultation and implementation role discussion process might be used for discussions across federal government agencies, institutes, etc?

MARN has the General Directorate of Public Participation office, which deals with the consultation process. There is also the Indigenous Peoples Office in MARN, CONAP, INAB, Foreign Affairs Ministry, and the Ministry of Culture.

Stakeholder's consultation among public institutions should be implemented within the framework of functions and responsibilities established by law for all of them and on the basis of current provisions regarding planning and coordination for public policy design. In this regard, particular consideration has to be given to legal criteria, such as the levels of autonomy that different agencies have (as in the case of Municipalities and other autonomous entities) as well as to the current schemes for developing public policy under the direction of the Executive.

The Ministry of Environment and Natural Resources (MARN) has the main responsibility for conducting environmental policy-making, but there are other institutions involved, such as the Ministry of Agriculture, Livestock and Food Security, CONAP, INAB, the National CDM Office, etc., that need to be integrated in the process, as well as other entities from the social and economic sectors which are responsible for addressing causes of deforestation. To that extent, when applicable, current mechanisms such as the agreement forum boards will be used.

The consulting process should include different national, regional and local levels. It will be comprised by the following stakeholders:

- Local governments,
- Institutions involved in the topic.
- Nongovernmental organizations involved in the theme
- The organized society
- The agents of communities and indigenous people
- Forest producers and other people that depend on the forest

d) Across state or other sub-national governments or institutions?

There is no decentralized structure in Guatemala and as a result, most functions and responsibilities are conducted in a centralized manner. However, in those cases where some regional or sub regional structures or programs do exist, these organizations will be involved in the consultation process, particularly through the Agreement forum boards and in coordination with Municipalities and their environmental offices.

As it was explained in the previous question, the consulting process to be implemented must consider three basic levels: national, regional and local. This is because the country has a lot of variability, such as the weather and the population, situation that forces to do consultation with the institutions and local governments on a regional level.

e) For the stakeholders on forest and agriculture land and sectors, (eg. NGO's, private sector, etc)?

The existent mechanisms will be used for involvement of relevant social stakeholders, such as the Agreement Forum Boards, where most sectors are invited to attend.

As it was explained, these processes were identified and were implemented to address the themes related at the National Forest Policy. In the case of REDD, it should be necessary to evaluate if it is convenient to use the same structure or change it to another more representative and specific. It will be the result of the group's evaluation and it will be part of the R-PLAN development.

f) For forest dwelling indigenous people and other forest dwellers?

There are open windows for the consultation process, taking into consideration that there are Indigenous People Offices in some public institutions and these have the support of NGO's. The best examples are the 3 workshops regarding Indigenous People and Climate Change and the REDD issues which were carried out in February 2009, please see above.

8. Implementing REDD strategies:

- a) **What are the potential challenges to introducing effective REDD strategies or programs, and how might they be overcome? (e.g., lack of financing, lack of technical capacity, governance issues like weak law enforcement, lack of consistency between REDDS plans and other development plans or programs, etc)?**
- i. To guarantee a process of coordination and generation of information on behalf of governmental institutions and the NGO's that work in forest topic. Besides, there must be coordination in the planning and in the executing processes of this strategy that will attempt to develop and initiate the principles of the REDD strategy.

The implementation of REDD strategy will be possible if there is a high level political support. The Ministry of the Environment and Natural Resources of Guatemala (MARN) has already developed the National Climate Change Strategy (ENCC) and has found itself identified with REDD initiatives as one of its own substantial activities.

The ENCC considers the creation of a Presidential Commission regarding Climate Change that will be composed of three committees. The Inter Ministerial Climate Change Committee coordinated by the Vice presidential Office of the Country and integrated by the following permanent members: The Ministry of the Environment and Natural Resources, Ministry of Agriculture, Cattle Grazing and Food. Ministry of Energy and Mining, Ministry of Public Health, Ministry of Finances, The Ministry of International Relations and the Planning and Programming Secretary of the Presidency. As a non permanent member, the Inter Ministerial Climate Change Committee will be composed by the Manager of INAB, the Executive Secretary of CONAP, members of the private sector, NGOs and academics.

The Technical Committee of Variability and Climate Change composed of representatives of public and private institutions, NGO's and universities will also be created. The third component of the Presidential Commission will be formed by ad hoc climate change working groups. At this time we have identified the following groups: Rainforest, Biodiversity and Climate Change, Agriculture and Climate Change, Health and Climate Change and Climate Change Scenarios. Technical experts from the key stakeholders will participate in these working groups. There has been a technical analysis of the REDD topic precisely within the Rainforest Biodiversity and the Climate Change group.

- ii. There's a need to correct the actual deficiency and the ones related directly with rainforest and the loss of its forest coverage by diverse causes that are mentioned in this document in question number three.

There is a particular need to strengthen the main environmental institutions in the following aspects:

- Economic and Financial Resources to strengthen the environmental institution.
 - Strengthen the technical capacities of the human and institutional resource.
 - Support for the centralization of the technical and socio economic information related to the topic of deforestation and land degradation.
- iii. Strengthen the processes of coordination with institutions in charge of the application of justice. The implementation of direct coordination and the planning of joint solutions is expected, together with entities that deal with Guatemalan justice as well as environmental institutions:
- Judicial Organism and its municipal and local (department) courts.
 - Public Ministry and its specialized agencies in environmental crime.
 - National Civil Police and its department for the protection of nature-DIPRONA -
 - Forums for the Application of justice on a regional and local (department) level.
 - National Forestry Institute -INAB-
 - National Council for Protected Areas-CONAP-
- iv. Another great challenge for the implementation of the REDD Strategy in Guatemala is land-tenure and property of the land in the entire country.

In this area, there have been significant advances in initiating a process of territorial planning focusing in land tenure and property of the land through the approval of the General Land of Catastro that created the Information Catastral Registry as a governmental institution in charge of promoting a policy of territorial planning in priority areas. Complementing with activities, the mentioned law includes a component directly related to legalization of communal land with forests.

- b) Would performance-based payments through REDD be a major incentive for implementing a more coherent strategy to tackle deforestation? Please, explain why? (I.e. Performance-based payments would occur after REDD activities reduce deforestation, and monitoring has occurred):**

It is considered that a payment system for performance or results would be successful considering that the systems that have been employed in the country basically use that concept. For example, in the PINFOR and in the PINPET payments are done after verifying and proving there have been successful results in the field.

9. REDD strategy monitoring and implementation:

- a) How forest cover and land use change is monitored today, and by whom (eg, forest inventory, mapping, remote sensing analysis, etc).**

National forest cover and land use change has been periodically monitored with the use of satellite imagery since 1999. Forest cover change has been monitored by an institutional cluster composed by Universidad del Valle de Guatemala (UVG), National Forestry Institute (INAB), National Council of Protected Areas (CONAP) and the Ministry of Agriculture, Livestock and Food (MAGA). The monitoring has been done over the past 18-years period, on 5-years intervals (1991, 1996, 2001). Data generation for 2006 is currently under process.

The monitoring methodology is based on the use of satellite imagery (Landsat TM and ETM sensors) with spatial resolution of 30m. Satellite images have been digitally classified with the support of a field work campaign. Image classification accuracy has been tested with ground-truthing work with a statistically representative number of points per area unit. National forest cover maps have been produced at 1:250,000 scale, as well as forest cover change statistics including annual deforestation rate at national and at a local department level. This multi-agency project has been funded by small foreign grants and from participating organizations.

Forest cover change in the Mayan Biosphere Reserve, the largest country's protected area (2.08 million ha) has been monitored in a more intensive way. Over the last 10 years, forest cover and forest cover change maps have been generated every 2 years using a similar methodology to the one used in the national project. This monitoring has been implemented by CONAP/CEMEC. The project has been funded by CONAP and foreign financial support has been provided by several donors. CONAP/CEMEC has plans to continue with the monitoring on a permanent basis.

National land use change has been monitored using satellite images since 1999 by MAGA. Digital land use maps have been produced for 1999 (1:250,000), and 2003 (1:50,000). MAGA's mapping office has granted government budget to fund this work. There are no plans for future land use mapping projects.

In 2003 INAB conducted the National Forest Inventory. This FAO funded project was designed to produce forest metrics and biomass measurement information using a low intensity sampling and field work methodology. Currently, there are no specific plans for a new national assessment.

- b) What are the constraints of the current monitoring system? What constraints for its application to reducing deforestation and forest degradation? (eg, system can not detect forest degradation of forest stands, too costly, data only available for 2 years, etc).**

Institutional: Guatemala lacks an officially established system to monitor land use and forest cover change. As stated before, several monitoring efforts have been carried out these last years but they have not been integrated in a coherent and systematic process under a government agency with leadership and responsibility.

Budget: No government budget has been specifically targeted to fund this system. Previous monitoring efforts have been highly dependent on donors to provide funding. Guatemala's proposal considers forest change monitoring as a task to be financially and technically supported, as an integral part of REDD strategy.

Technical: There is a lack of national standards officially approved to regulate critical issues of the monitoring systems, such as methodologies, periodicity, scale, geographic disaggregation level, legend, imagery requirements, ground-truthing requirements, cartographic specifications, etc. There is a clear need of government agencies and institutions on capacity building and strengthening to be able to implement such monitoring system (regarding technical assistance, training, equipment, access to imagery and ancillary data, etc.).

It is very important to emphasize that the described land use and forest cover change monitoring efforts are effective to assess deforestation but not forest degradation. As a part of Guatemala's REDD strategy, it is necessary to strengthen national capacities on this aspect to be prepared for national or sub-national initiatives.

c) How would you envision REDD activities and program performance would be monitored? (e.g., changes in forest cover and deforestation or forest degradation rates resulting from programs, using what approaches, etc).

REDD activities and program performance should be monitored through:

- Implementation of system for the assessment of national biomass changes (assisted by GIS/remote sensing and broad field work)
- Implementation of a system for the focused monitoring of deforestation and forest degradation of strategic forested areas such as: protected areas, critical aquifer recharged areas, priority forest ecosystems, among others (assisted by GIS/remote sensing and broad field work)
- Design of a program for forest integrity assessment based on a broad field operation, involving local communities and indigenous peoples.
- A program designed to assess the socio-economic impacts of the program in rural populations closely related to unsustainable use of forests, particularly in high deforestation areas.

10. Additional benefits or potential REDD strategy:

a) Are there other non-carbon benefits that you expect to realize through implementation of the REDD strategy (e.g. social, environment, economic, biodiversity)? What are they, where, how much?

Deforestation is the result of social and economic conditions of the population and if poverty conditions remain people are likely to incur in inappropriate use practices. To be effective, the REDD strategies must address elements and conditions that are beyond the reduction of only carbon concentrations in the atmosphere.

It will hopefully generate improved conditions for populations regarding access to other relevant goods and services particularly in the rural areas of the country (energy, health, food, recreation, etc.). On the other hand, as an immediate effect, the protection of fundamental elements of biodiversity will be achieved, as well as avoided deforestation, maintenance of the forest cover, and other goods and services derived from forest ecosystems, such as water protection, food supply, soil protection, etc. The REDD strategies will benefit different areas:

- Social. Providing economic alternatives for the population that will reduce the pressure on forests, also financing adjustment of vulnerable and poor areas, not only areas of forest under pressure, but strategic areas for conservation as well. The process of poverty reduction and deforestation should occur in a parallel way; the proposal is to use resources through REDD to generate economic alternatives that may alleviate poverty in zones where we still find forests, and in other areas where the government is in charge.

Nevertheless, poor areas adjacent to the forests, are usually the last to be taken care of, generally when the forest has already disappeared due to the fact that during the process of choosing priorities, these areas are inaccessible which do not enable limited budgets to deal with them.

- Environment and biodiversity. Avoided deforestation and forest degradation results in final gains related to conservation, biodiversity and environmental goods and services, soil protection, and water sources conservation. This will have an impact in protected areas, communal and local forests and protected water zones.
- Economic. The REDD strategies are seeking for a strengthened program of payment for goods and services in which forest resources may have additional economic values beyond wood. These incentives have been oriented to strengthen the economic capacity of inhabitants of the areas that make pressure over the forest, in such ways that REDD may be a process with a focus of sustainability and that the resources be used in an effective manner to detain reforestation.

On the other hand, the generation of economic alternatives allows the inhabitants who have forests in areas which are bound to diminish due to the advancement of the agricultural border, to be less susceptible to the sale of them to big landowners who make land use change for productive activities such as Palm African oil and extensive cattle grazing.

- Governance. This strategy will support and strengthen the rights of the population's resources and the creation of instruments. The benefits would be focused in areas where the REDD strategy would be implemented and it is expected to have a substantial increase in human welfare, reduced deforestation and forest degradation and economic opportunities in all these areas. However, specific definitions on areas and levels of effort to be allocated to each will be decided afterwards during the R-plan stage.

b) Is biodiversity conservation being monitored at present? If so, what kind, where and how?

Conservation of biodiversity is being monitored (directly and indirectly) by several institutions in Guatemala. Some of them are governmental; in Table No. 11 it is presented the description of national institutions that conduct monitoring of biodiversity (in Annex 4 it is included their legal base). Others are Environmental Non Governmental Organizations and International Environmental Organizations (Table No. 12).

Table No. 11 Description of the State Institutions that conducts monitoring of Biodiversity

Name of Institution	Description	Geographical area of study
Data Centre for Conservation (CDC/CECON)	Its main objective is to systematically collect and organize the country's biodiversity information.	All of the country.
Centre of the sea and aquaculture (CEMA)	It is dedicated to the study and production of marine resources of the country and the training of professionals in this area.	Pacific and Caribbean coasts.
National Council for Protected Area (CONAP)	It is in charge of the sustainable management of protected areas and of the sustainable use biodiversity of the country.	Monitoring biodiversity in all Guatemala. Forest resources just inside of protected areas
Biological School/ Universidad de San Carlos de Guatemala	It has made biodiversity monitoring since its creation in 1974 with the establishment of biotopes. It works closely with international organizations in the Maya Biosphere Reserve.	All of the country
Fishery and marine resources Unit (UNIPESCA)	In charge of the management of marine resources.	All lakes and rivers of Guatemala where fishery resources are used.

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Even if nongovernmental organizations and international organizations have their own mechanisms and methodologies, they coordinate their activities with CONAP. It is also necessary to highlight that biodiversity monitoring is not implemented on a regular basis and that additional efforts are still required to fulfill the requirements of international recommendations such as those deriving from the CBD.

Table N.12 Nongovernmental Environmental Organizations and International Environmental Organization

NGO's	Biodiversity Monitoring activity
Fundación Defensores de la Naturaleza	Conduct biodiversity monitoring in 4 of the 5 protected areas that are being managed. The methodology used is different in every area and some examples are: bird watching, footprints, and feces, among others.
Fundaeco	Conduct biodiversity monitoring and research on scientific species.
Fundary	Their main activity is in the fishery resources. They monitored the different areas of fishing; the techniques used and the seasons of fishing.
International Environmental Organizations	
WCS/TNC	Conducts bird monitoring in the Mayan Reserve Biosphere, especially with red macaw.
Other	
Universidad de San Carlos de Guatemala	Conducts monitoring of several species
Universidad Del Valle de Guatemala	Conducts biodiversity monitoring, especially regarding reptile and orchids.

As the competent authority on protected areas and biodiversity CONAP has different monitoring and evaluation systems focused on protected areas and management effectiveness; evaluations include issues as natural resources, financial administrative, legal and political managements among others. The institution has also developed the monitoring and evaluation system on forest concessions in the Maya Biosphere Reserve. Both methodologies include administrative and biological concerns in order to get feedback on biodiversity management.

Some other isolated efforts are the settlement of a baseline at genetic scale. Some examples are: a) the national inventory of the wildlife on agro biodiversity and b) the national inventory of zoo genetic resources (livestock) of Guatemala.

c) Under your early ideas on introducing REDD, would biodiversity conservation also be monitored? How?

Yes, it will. At the ecosystems level, the use of geographic information system would be the tool to monitor the changes in forest ecosystems among past and future years. This information includes all of those shapes that have a natural cover associated with agro ecosystems, rechargeable water sites, and protected areas. At species level, the use of flora and fauna indicator species that gave information of environmental quality and biological integrity. Some other elements could be included as deemed necessary but the most important fact is that there is already a system that provides basic information on this area.

CONAP, as the competent authority on protected areas and biodiversity, has different monitoring evaluation systems focused on protected areas management effectiveness (evaluations scopes as natural resources, financial administrative, legal and political managements among others). The institution has also developed the monitoring evaluation system on forest concessions in the Mayan Biosphere Reserve. Both methodologies include administrative and biological concerns in order to get a feedback on biodiversity's management.

At a species scale, CONAP and other partners, implemented supervisions at field level related on wildlife captive farms, flagship species with international range (Mexico-Belize and Guatemala) as the Jaguar (*Panthera onca*), the national bird of Guatemala the quetzal (*Pharomacrus mocino*) and others.

Some other isolated efforts are the settlement of a baseline at genetic scale some examples are: a) the national inventory of the wild relatives on agro biodiversity and b) the national inventory of zoo genetic resources (livestock) of Guatemala.

At last, Guatemala has an environmental profile that is an ongoing process which includes not only the biodiversity concerns, but also the social, political-legal and cultural issues of Guatemala. This national profile and its indicators are parts of the Environmental Strategic Information System. (www.perfilambiental.org.gt).

At the present time, Guatemala is in a process of updating biodiversity information that includes its three components: ecosystems, species and genes that would be a complement for the REDD strategies.

d) Are rural livelihood benefits currently monitored? If so, what benefits, where, and how?

The government has developed the ENCOVI (national survey of livelihood conditions) through a national survey (2006) that evaluates socioeconomic aspects, but not referred to the REDD theme. If deemed necessary, it could adjust to the tools that generate information regarding the benefits that could be created through REDD.

Specifically, in the case of protected areas, CONAP has installed the Performance Monitoring systems in three levels: a) social (evaluates increases in education, health, employment), b) economic (per capita income, benefits distribution, profitability), and c) environmental (ecosystem impact, forest management schemes, biodiversity counting, fauna monitoring) all related to livelihood benefits in some protected areas. In other national parks and protected areas, a similar mechanism is used to monitor livelihood benefits.

The main benefits are: income per forest production such as added value timber products and non timber forest products such as sports hunting, palms, Mayan nuts and tourism projects in forested areas as well as good and services payment for water and reduction of emissions among others. These benefits are in various natural ecosystems such as forested areas of Petén, Izabal, West Highland, Sierra de Las Minas as some examples. However current monitoring mechanisms do not provide all relevant information to be able to follow up the impact of policies and instruments in addressing all the complexities of deforestation causes, as well as the need for adjustments in order to provide more relevant information.

e) Under your early ideas on introducing REDD, would rural livelihood benefits also be monitored? How?

It could be monitored through an extension or complement of some tools that are using on a national level as ENCONVI. There is a need to monitor rural livelihoods as a source of information to identify the impacts of policy measures on reducing the causes of deforestation. However, current information systems must be adjusted for this purpose since they are not providing all relevant information. Criteria and indicators to be included would depend on the results in depth of analysis on the causes of deforestation that is required as part of the implementation of the project. In such a way, the information gathered, can fulfill the need to measure specific issues.

11. What type of assistance are you likely to request from FCPF Readiness Mechanism?

- Identify your early ideas on the technical or financial support you would request from FCPF to build capacity for addressing REDD, if you are ready to do so. (Preliminary; this also could be discussed later)
- Include an initial estimate of the amount of support for each category, if you know.
Please refer to the Information Memorandum and other on-line information about the FCPF for more details on each category

a) Setting up a transparent stakeholder consultation on REDD (eg, outreach, workshops, publication):

Strengthen institutions and organizations that will be participating in the REDD initiative in order to be in a better position to implement a nationwide REDD strategy including legal framework and institutional capacities and building citizen engagement and voice.

Greater citizen involvement can be facilitated by disclosing data on enhancing spaces and opportunities for citizen and civil society engagement with political actors. Participatory methods such as expanded data collection and analysis can then be used by the public to hold policymakers accountable, thus enhancing both public sector accountability and performance; the demand side of governance.

Regarding to a transparent stakeholder consultation a broad national and sub-national process of consultation must be developed, including as many stakeholders and using the existing mechanisms to promote awareness and reach consensus on the assessment of causes of deforestation, measures to tackle them and ways of monitoring and evaluation. Combining public meetings (seminars, workshops) with adequate information materials (leaflets, radio ads and TV spots could be considered) in such a way to reach different sectors of the population, particularly rural communities and indigenous peoples as well as other forest land tenants.

According to these points we need financial support to construct and implement workshops at least in three levels: politics holders, technical personal from the involved institutions and some interested NGO's, and communities who live in relation with forest. This effort will need support to the logistics involved in the conduct of such events (coordination meetings, transportation to different zones of the country, accommodation, materials, custom service, etc.). In Guatemala there is the ability to carry out capacity building and broad consulting, but there are not enough financial resources.

b) Developing a reference case of deforestation trends: Assessment of historical emissions from deforestation and/or forest degradation, or projections into the future.

Guatemala has already completed a deforestation trend study that should be used as a starting point for the REDD strategy, but it has to be representative, complemented, and standardized. What is currently needed is additional technical assistance to implement the monitoring system, especially in areas like capacity building and equipment. We don't have already a monitoring system, we need to construct it from the beginning, so we need technical consultancy to do it and make it work.

This process is expected toward an evaluation of the changes of forest cover, and the estimation of the emissions for deforestation and degradation of the forests, which is necessary to incorporate in the process that has been defined at a national level.

However it is also possible that some adjustments need to be made in order to shape some definitions (such as the scope of forest degradation) and make it compatible with international recommendations on REDD methodologies if available. Financial resources are also required to conduct in depth, the analysis of the causes of deforestation as well as to eventually include additional data (years) for establishing the reference scenario and projections, as well as for workshops and publications of the final proposals to promote the raising of awareness and enhance coordination among the public sector to this end.

c) Developing a national REDD Strategy. Identification of programs to reduce deforestation and design of a system for providing targeted financial incentives for REDD to land users and organizations (eg, delivery of payments, governance issues, etc).

Both, existing and new. Programs to reduce deforestation will be included the most challenging effort will be to get consensus among public agencies to find programs to be implemented jointly in order to address root causes of deforestation and to reorient some public funding toward this end. Funds and technical assistance will be required to allow a better understanding of REDD strategies among political authorities at various levels and to link environmental policies to broad development objectives.

On the other hand, additional funding will be needed to implement programs on a broader basis such PINFOR, PINPEP and other financial mechanisms already in place. In some cases, additional studies will be required on legal and institutional reforms, to fully implement programs on payment for environmental services.

d) Design of a system to monitor emissions and emission reductions from deforestation and/or forest degradation:

In order to be able to deliver the expected results in terms of emission reductions and at the same time fulfill internationally agreed criteria, a full monitoring system will be required at the national scale, capable to have applications at project level, since its activities would probably be implemented on a project-like basis.

Consultancy services on methodologies and monitoring system design and implementation as well as other technical tools (equipment, software) and training of personnel is likely to be required. Particular studies to determine best options to measure forest

degradation could also be required.

All the monitoring system needs support, especially to buy the software licenses for the analysis of satellite images (e.g. ERDAS, ARCGIS). Institutions like INAB, CONAP and UVG have some equipment, but it needs to be improved and updated in most cases; it would also be useful to have the tools, the equipment and human resources to do the studies in a more detailed scale.

Other?

12. Please state donors and other international partners that are already cooperating with you on the preparation of relevant analytical work on REDD.

The Nature Conservancy (TNC) and Rainforest Alliance (RA) have been involved in the phase of preparation of this R-PIN and they are willing to continue involved. Other organizations such as Conservation International (CI), World Wild Fund (WWF) and UICN (International Union for Conservation of Nature) have also offered technical support during the forthcoming steps of preparation of the R-Plan and in the implementation of the REDD strategy, as well as other national institutions and local and indigenous NGO's.

All other donors or partners willing to participate in this effort will follow the guidance of the national authorities and the work program resulting from the R-pin and R-plan processes. It is expected, as a part of the REDD strategy, that it could identify main actors that support the implementation of this process, depending on its capacities and experiences.

13. Do you anticipate these or other donors will cooperate with you on REDD strategies and FCPF, and if so, then How?

Yes, it is anticipated that the stakeholders identified previously are willing to participate in the REDD strategies. Other actors, like CARE, have participated in development methodologies for monitoring of forest carbon in different types of forests.

14. Potential Next Steps and Schedule:

Activities / month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Forest, biodiversity and climate change forum implementation																								
Integration of MARN REDD-Unit																								
To formulate REDD National Action Plan																								
To prepare and implement a REDD national consultation process																								
Land use, forest and protected areas policy assessment																								
Assessment of main causes of deforestation																								
To formulate an action plan addressing the main activities toward the reduction of deforestation.																								
Evaluate of REDD co-benefits, as biodiversity conservation and rural livelihood																								
Risk assessment of REDD strategy																								
Assess the social and environmental impacts of national REDD strategy																								
Assess investment and capacity building requirements																								
Develop a reference scenario of deforestation and forest degradation																								
Design and implement a monitoring, reporting and verification system for REDD																								
Formulation and validation of REDD																								

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16. List any attachments included.

- Annex 1 List of authors and contributors to R-PIN and their organizations
- Annex 2 Deforestation areas of Guatemala (Map)
- Annex 3 Forest Cover of Guatemala (map)
- Annex 4 Protected Areas of Guatemala (map)
- Annex 5 Table No. Legal base and main objectives of governmental institutions that contribute to the monitoring of Biodiversity
- Annex 6 Table No. Urban and Rural Development Councils

17. Acronyms

CDB	Biodiversity Convention
CECON	Conservationist Study Centre
CEMA	Aquaculture Study Centre
CI.....	Conservation International
CONAP	National Council for Protected Areas
EIA	Environmental Impact Assessment
ENCOVI	Encuesta Nacional de Condiciones de Vida
FAO	Food and Agriculture Organization
FSC	Forest Stewardship Council
FUNDAECO.....	Fundación para el Ecodesarrollo y la Conservación
IDAEH	National Institute of Archeology and History
INAB	National Forestry Institute
MAGA	Ministry of Agriculture, Livestock and Food
MARN	Ministry of Environment and Natural Resources
NISP	National Implementation Support Partnership
PINFOR.....	Forestry Incentive Program

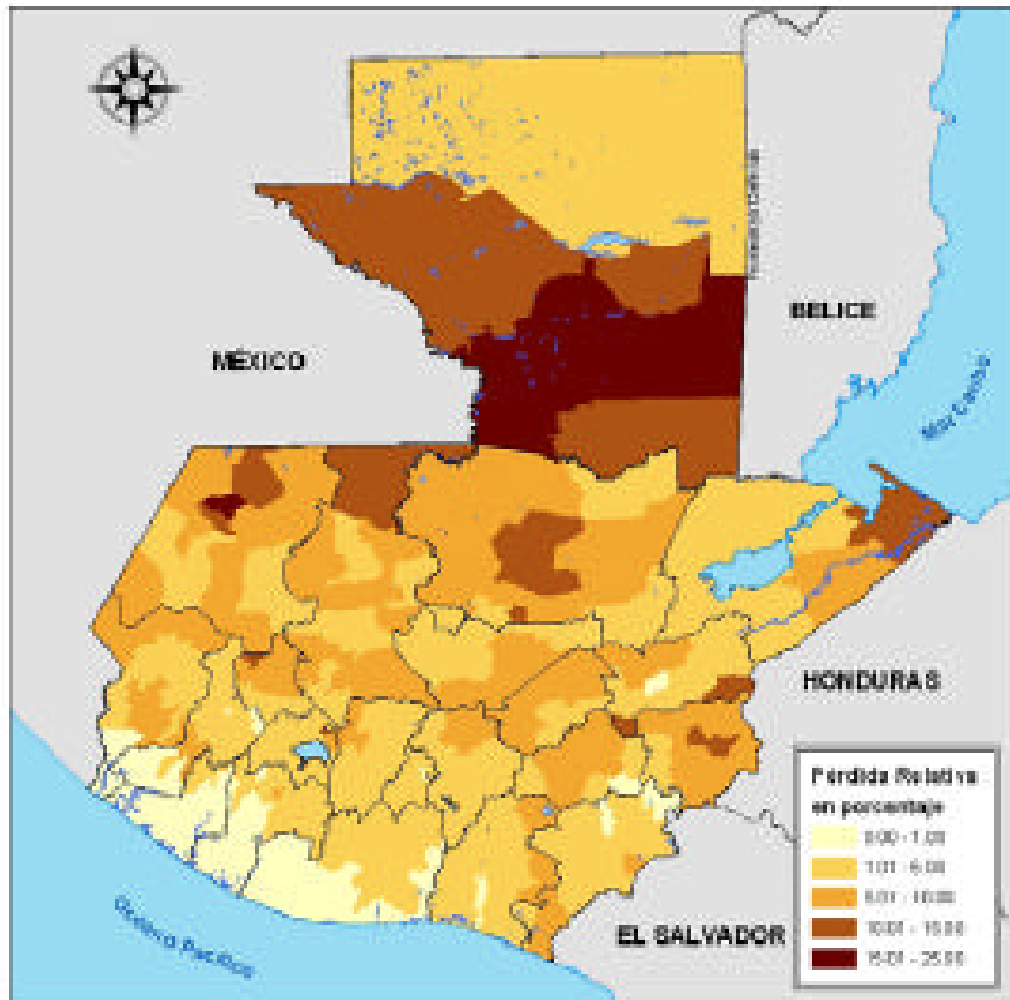
PFN	National Forest Program
ONG/NGO.....	Nongovernmental Organization
OTECBIO	Technical Office of Biodiversity
PPAFD	Pilot Program of Active Direct Forest
PINPEP	Small stakeholders Initiative Program
PINFOR	Initiative forestry program
PNUD/UNDP.....	United Nations Development Programme
RA.....	Rainforest Alliance
RBM	Maya Biosphere Reserve
R-PIN.....	Readiness Plan Idea Note
SAM	Mesoamerican Reef System
SIGAP	Guatemalan system of Protected Areas
SIPECIF.....	National System for Control and Prevention of forest fires
TFAP	Tropical Forest Action Plan
TNC.....	The Nature Conservancy
UNIPESCA	Fishery Unit
USAC	University of San Carlos
UICN.....	International Union for Conservation of Nature

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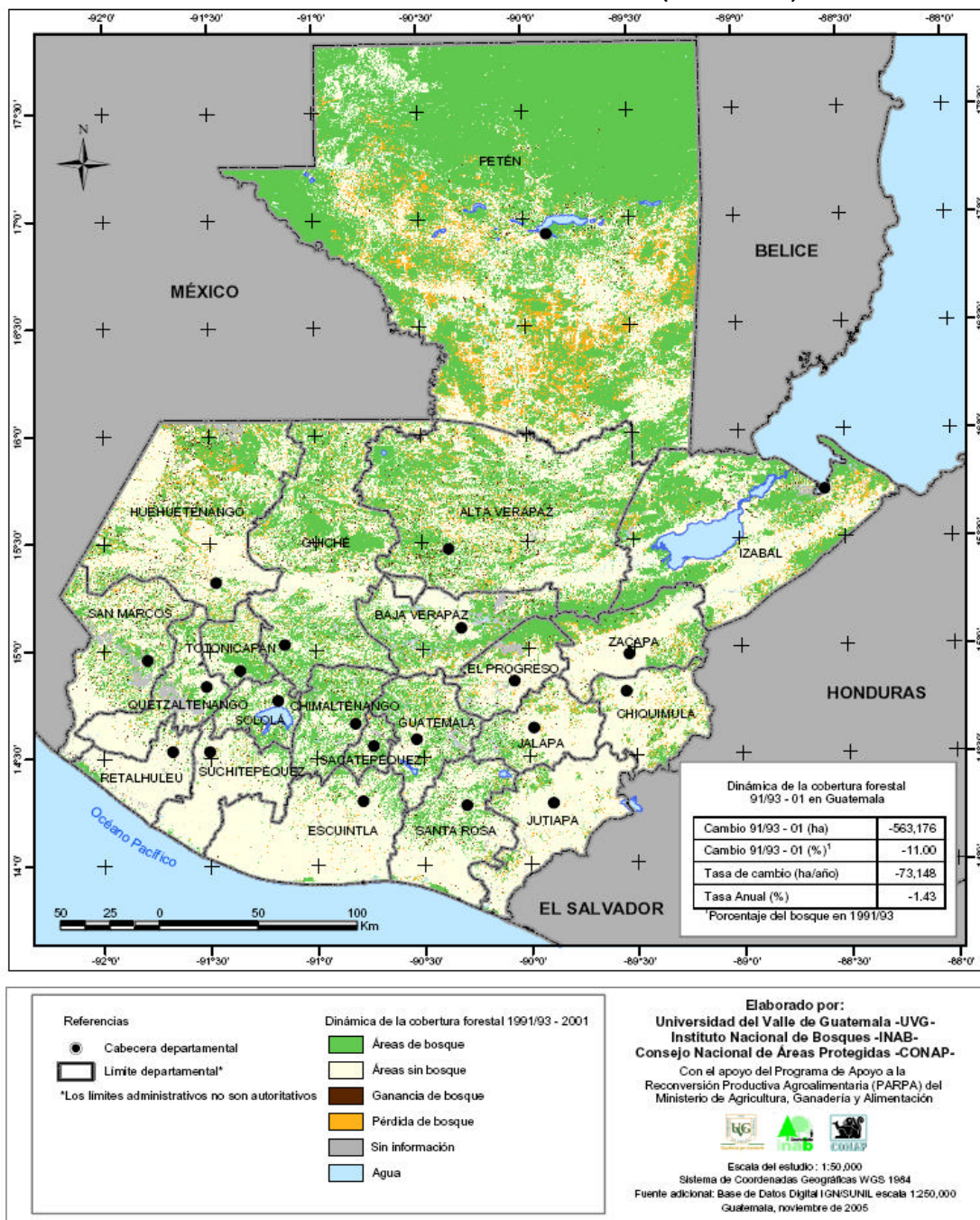
Annex 1
List of authors and contributors to the R-PIN, and their organizations

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Governmental	
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Mr. Jorge Ruiz	Wildlife Department. National Council for Protected Areas
Mr. Rolando Zanotti	National Forest Institute-INAB
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Mr. Mike Estrada	Watershed Program. Ministry of Agriculture, Livestock and Food
National Non Governmental Organization	
Mr. Oscar Núñez	Fundación Defensores de la Naturaleza
Mr. Marco Vinicio Cerezo	Fundación Ecológica – Fundaeco
Mr. Jacques Betoulle	Fundación Mario Dary – Fundary
ASOREMA	Conglomerates more tan 25 environmental non organizations
Internacional Environmental Non Governmental Organization	
Mr. Carlos Rodríguez	International Conservation – CI-
Mr. José Román Carrera	Rainforest Alliance
Mr. Mario Escobedo	Rainforest Alliance
Mr. Mario Mancilla	CARE
Mr. Carlos Morales	WWF
Mr. Juan Carlos Godoy	The Nature Conservancy
Civil Society	
Mr. Roberto Gonzalez	National Association of Coffee culture- ANACAFE
Mrs. Claudia Gardia	Private Natural Reserves Association
Mr. Otto Becker	Forestry Cluster
Other	
Urban and Rural Development Councils	
National Association of Counties- ANAM	
Universidad Del Valle de Guatemala	

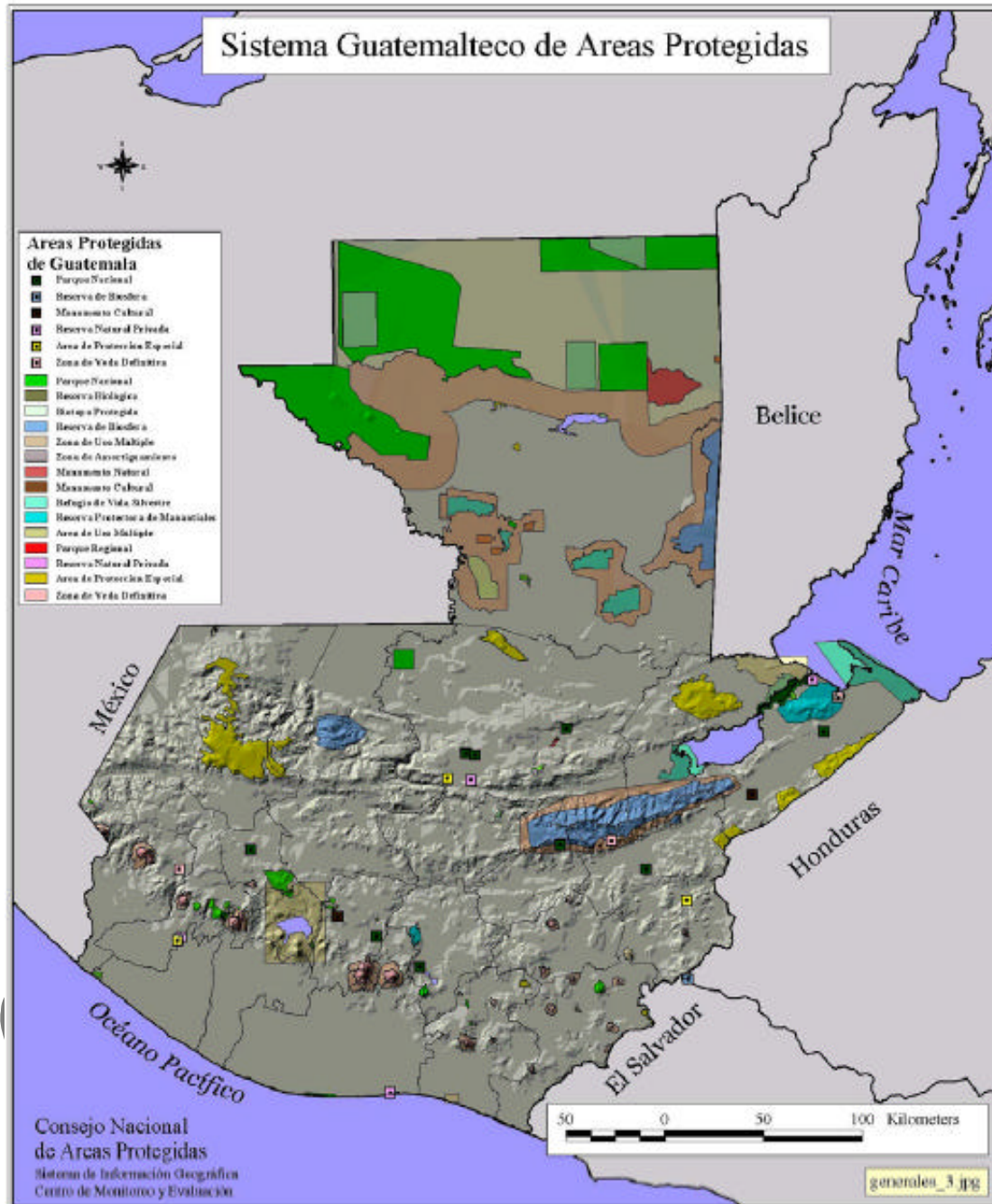
Annex 2
Deforestation Areas of Guatemala



Annex 3
Forest Cover Map of Guatemala
Análisis de la Dinámica de la Cobertura Forestal (1991/93-2001)



Annex 4
Protected Areas of Guatemala



Annex 5

Legal base and main objectives of governmental institutions that contribute to the monitoring of Biodiversity

Legal Standard / Institution	Attribution
Forestry Policy	Main objective: conservation of wildlife areas, special forest ecosystems, water recharges zones and biodiversity sites.
National Policy and National Strategy for the development of the Guatemalan System of Protected Areas (SIGAP-CONAP)	Main objective: to conserve the biological diversity by the representativeness of different ecosystems.
Professional regulation of the Ministry of Environment and Natural Resources (MARN)	Article 8 d) Define, develop and implement the monitoring evaluation system of the environmental activities, in coordination with governmental and private institutions.
Ministry of Environmental and Natural Resources Creation Law (MARN)	Article 3 i) Annually, elaborate and present the Environmental report for the National State.
Protected Areas Law	Article 5. Main Objective: Achieve the biological conservation of the country. Article 62 c) to plan, conduct and disseminate the National Strategy of Biodiversity and natural resources of Guatemala. Article 62 e) to plan and coordinate the application of the provisions on biodiversity within the international treaties ratified by Guatemala.
Forestry Law	Article 1. To Conserve the forest ecosystems of the country through development programs and strategies to promote the achievement of the national legislation. Article 30: periodic monitoring (at least once a year) the forestry concessions.
Fishery and marine resources Policy (UNIPESCA)	Main objective: To promote the sustainable and responsible use of the fishery and marine resources without damaging the marine ecosystems.
Agriculture Policy	Main objective: To promote the sustainable use of natural resources

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Annex 6

Urban and Rural Development Councils

The system of Urban and Rural Development Councils was created in 2002 with the objective of organizing public administration via the formulation of development policies, plans and budget programs and promoting inter-institutional coordination. This system is represented at the following levels.

Urban and Rural Development Councils

Level	Name	Description
National	National Urban and Rural Development Council (CONADUR)	Presided over by the President of the Republic, with the main responsibility to formulate urban, rural development and territorial planning policies.
Regional	Regional Urban and Rural Development Councils (COREDUR)	Presided over by a regional coordinator who is appointed by the President, with the responsibility to promote, facilitate, and support the system, particularly the Departmental Development Councils of the region.
Departmental	Departmental Urban and Rural Development (CODEDE)	Presided over by the Governor of the Department, with the responsibility to support departmental counties in the functioning of the Development Councils.
Municipal	Municipal Urban and Rural Development (COMUDES)	Presided over by the Municipal Mayor with the responsibility to promote, facilitate and support the functioning of the Community Councils.
Community	Community Urban and Rural Development (COCODES)	Presided over by a coordination body comprised of members according to the Council's own principles, values, norms and internal procedures.

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