

Country Case Study\*

**Analysis of Forest Financing in Guatemala**

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**The first meeting of the Open-ended  
Intergovernmental Ad Hoc Expert Group on Forest  
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\* The views conveyed in this case study are meant to spur discussion during the first meeting of the ad hoc expert group on forest financing (13-17 September 2010- Nairobi, Kenya) and do not necessarily reflect the views of the UN Forum on Forests Secretariat, the UN Forum on Forests, or its member States.

ACAFESAM - San Martín Jilotepeque Association  
 AGEXPORT – Guatemalan Exporters Association  
 ANAM - National Association of Municipalities  
 ANOFCG- National Alliance of Forestry Community Organizations of Guatemala  
 ASOREMA - Association of Nongovernmental Organizations of Natural Resources, Ecology and Environment  
 BANRURAL – Rural Bank of Guatemala  
 BCIE - Central American Bank for Economic Integration  
 CCAD - Central American Commission on Environment and Development  
 COFAMA - Forestry Products and Wood Furniture Manufacturers Commission  
 CONAMA - National Commission of Environment  
 CONAP - National Commissions of Protected Areas  
 CONTIERRA - National Council for the Resolution of Land Disputes  
 CONRED - National Coordinator for Disaster Reduction  
 ENFF - National Forest Financing Strategy  
 FAO - Food and Agricultural Organization  
 FALIDES - Environmental Fund of Central America  
 FAPIC – Development Program for Small and Medium Enterprises  
 FOEXCA - Fund for the Strengthening of the Central American  
 FOGUAMA - Guatemalan Fund of the Environment  
 FONACOM - National Fund for the Conservation of Nature  
 GFP - Growing Forest Partnership  
 GDP – Gross Domestic Product  
 INAB – National Institute of Forests  
 INFOM - Municipal Development Institute  
 INSIVUMEH - National Institute of Seismology, Volcanology, Meteorology and Hydrology of Guatemala  
 MAGA - Ministry of Agriculture, Livestock, and Food  
 MARN - Ministry of Environment and Natural Resources  
 MEM - Ministry of Energy and Mines  
 MDG - Millennium Development Goals  
 MINEDUC - Ministry of Education  
 MINECO – Ministry of Economics  
 MINFIN – Ministry of Finance  
 NLBI - Non Legally Binding Instrument  
 NGO - Non-governmental organizations  
 OECD - Organization for Economic Cooperation and Development  
 PES - Payment of Environments Services  
 PFN - National Forestry Program or PFNG - National Forestry Program of Guatemala  
 PINFOR – Program of Forestry Incentives  
 PINPEP- Program of Incentives to small land owners with forestal or agroforestal vocation  
 PPFAD - Direct Forestry Support Program  
 PROMYPE – Support Program to Small and Medium Enterprises  
 PRONACOM – National Competitiveness Program  
 REDD - Reducing Emissions from Deforestation and Forest Degradation

RENACOR – National network of organized communities  
SEGEPLAN - Secretary of Planning and Programming of the Presidency  
SFM – Sustainable Forests Management  
SIB – Superintendence of Banks  
SIGAP - Guatemalan System of Protected Areas  
SINAFIP - National System of Pre-investment Funding  
UICN - International Union for Conservation of Nature  
UIFF - Forestry Financial Intelligence  
UNCC - United Nations Climate Change Commission  
USAC- San Carlos University

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## Introduction

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This document is an analysis of the current status of forest financing in Guatemala. One has to realize that funding is needed in two separate areas: first, the efficient cash flow to cover ongoing maintenance and operational expenses and second revenue to invest in the sector.

This separation is the key to assess the role of the government and international cooperation in the first area and the role of the financial system for the second one. A great deal of resources is needed to maintain efficient cash flows but without the recognition that Sustainable Forests Management (SFM) is profitable, the sector will not be sustainable.

The forestry sector is not isolated from the financial crisis that begun in 2008. As a result of a reduction in global financial resources, it has become more challenging to attract investment in this sector as a means to counter deforestation and help protect the planet. Guatemalan access to technology with high cellular and internet penetration can be used as a key tool to spread the message and educate people about the risk of deforestation and to send the message about the benefits of SFM and financing this sector.

Guatemala is a country with rich forestry resources as shown by different studies however, this sector continues receiving little attention from the government and the financial institutions and currently the government has cut funds for the forestry sector as well as for the agricultural and environmental sectors. Currently, the National Institute of Forests (INAB) and international donors are working together in these two issues and the prospects are positive.

## Objective of the study

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To evaluate and inform about the current state of forest financing in Guatemala, not only a description of actions but to form a prospective view of the needs and gaps to develop clear goals. The document ends with a series of recommendations. The majority of them need to be developed into specific plans.

## Methodology

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The content of the document is taken from the Terms of Reference for the analysis. There are four main chapters:

- a. Current forest financing needs and gaps in Guatemala for SFM including the implementation of the Non Legally Binding Instrument (NLBI) on All Types of forest;
- b. Conduct analysis of current national forest funding;
- c. Experiences, lessons learned, challenges, constraints, opportunities and success stories in forest financing in Guatemala;
- d. Recommendations.

Due to the lack of information regarding the forest sector, some assumptions were made. In some cases the interviews that the consultant conducted were more anecdotal than quantitative in nature.

The information to prepare this document in a short time frame was collected from the following sources:

- a. Review of documents, plans, strategies and analysis on the sector;
- b. Interview with key actors from public and private organizations (Five were made);
- c. Two working sessions with National Institute of Forests' (INAB's) personnel;
- d. Preparation of the first draft.

## I) Analysis of Policy Frameworks and institutional structures for SFM and its financing in Guatemala

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### I.1) Initial Considerations:

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There are four initial considerations that need to be taken into account:

First, Guatemala is a country with vast forestry resources, which has been shown in different studies.

Second, around 86% of forests worldwide are owned by governments (See Chapele, 2009). In Guatemala, this figure is close to 60%. Due to this fact, public financing is a key source for the forestry sector. However, as is shown in the table below, (the private sector plays a much more important role in Guatemala than in other countries) relying on Government funds along does not provide an optimistic scenario.

<b>Ownership of Forests (2003)</b>		
<b>Ownership</b>	<b>Hectareas (ha)</b>	<b>% of total</b>
Private	1,531,133	38
National	1,367,732	34
Communities	592,876	15
Municipal	341,754	8
Other	212,521	5
<b>Total</b>	<b>4,046,015</b>	<b>100</b>

Source: INAB

Third, insufficient financing is available to invest in all of the protected areas, especially given that the area of protected forest land has been expanded in Guatemala. There are several reasons why this has occurred namely: lack of transparency, underdeveloped financial system, shortage of human capital and the lack of innovative financial mechanisms. In the absence of any innovative source of financing, the current scheme mainly depends on the resources assigned to forests in the annual national budget and international cooperation.

<b>Forests Cover %</b>	<b>2000</b>	<b>2003</b>	<b>2008</b>
Protected Areas %	45.7	46.6	55.46
Outside Protected Areas %	54.3	53.4	44.54

Source: IARNA-URL

Fourth, these financial requirements are also extended to issues such as the restoration of degraded lands and forests, which becomes more evident when there are environmental damages, such as Tropical Storm Agatha that hit the country recently. Reforestation and forestation are also activities that need huge financial support as well as the mitigation of



climate change risk through Reducing Emissions from Deforestation and Forest Degradation (REDD) and forestry management.

According to Simula (2008), REDD and forestry management require a world-wide investment of US\$20 billion per year. Using the matrix of Simula (2008), Guatemala has a mixture of a high rate of deforestation with a high forest cover. These represent ideal conditions for REDD initiatives, SFM and restoration. But somehow these are not a priority in the national agenda. To attack this invisibility, a strong advocacy and lobbying campaign is needed.

**Forest Investment Potential for Climate Change Mitigation**

Deforestation rate\relative forest cover	Low forest cover countries	High forest cover countries
Countries with high deforestation rate	REDD: <b>high/medium potential</b> SFM: <b>low/no potential</b> Restoration: <b>high potential</b> A/R: <b>high potential</b>	REDD: <b>high potential</b> SFM: <b>high potential</b> Restoration: <b>high potential</b> A/R: <b>high potential</b> <b>GUATEMALA'S CASE</b>
Countries with low deforestation rate	REDD: <b>low/no potential</b> SFM: <b>low/no potential</b> Restoration: <b>medium potential</b> A/R: <b>high potential</b>	REDD: <b>medium potential</b> SFM: <b>high potential</b> Restoration: <b>low potential</b> A/R: <b>low/medium potential</b>
Countries with zero deforestation/ increasing forest area	REDD: <b>no potential</b> SFM: <b>low potential</b> Restoration: <b>low/medium potential</b> A/R: <b>medium potential</b>	REDD: <b>no potential</b> SFM: <b>high potential</b> Restoration: <b>low/no potential</b> A/R: <b>low potential</b>

Source: Simula (2008)

### I.II) An overview of policy framework in Guatemala:

Regarding legislative matters, the Forest Law of 1996 is still in place and it provides framework in legal matters for SFM. Under this law, the National Institute of Forests (INAB) was created as an executor body of the law as well as the administrator of forestry policy in Guatemala. This law assigns funding, which is not less than the 10% of the Ministry of Agriculture, Livestock, and Food's (MAGA's) budget plus additional sources of income. In addition, it establishes the rules for the concessions and the protection of the forests, the industrialization of the sector and ways to regulate.

The Forest Law establishes the amount assigned to forestry incentives at 1% of state revenues. Also, the law regulates the use, control, distribution and measurement of these incentives. Furthermore, this law includes a series of administrative and criminal aspects.

The public policy towards the forestry sector, and specifically towards SFM, has developed favorably in the last decade. However, the debate has been limited to specific Institutions such as INAB (part of MAGA), and on a minor scale by the Ministry of Environment and Natural Resources (MARN) and its representatives who are focused on environmental issues. There is definitely a lack of vision from the government toward the forestry sector.

Therefore, it is possible to say that previous efforts have been positive, yet there is still a major need for integration with other areas of public policy and also increased political involvement in strategic public decisions.

INAB has worked on a series of documents that define the forestry vision such as the Forestry Politics in 1999, the Protected Areas Policy of the same year, the National Strategy for the Conservation and the Sustainable use of the Biodiversity of that year, and the National Forestry Agenda presented in 2003.

The latter is an action and a road map for the period 2003-2012 that incorporates the National Forestry Program of Guatemala (PFNG), which contemplates a series of specific actions, studies, programs and projects, with emphasis on management. Thirty-two (32) instruments of policies were identified. Some of them are innovative and others are traditional. It also considered the separation of monitoring and evaluating short-term goals for 5 years, and long-term ones for 20 years.

The strategic areas of the National Forest Program (PFN) are: Conservation and Protection of Forests, Production and Sustainable Management, Trade and Industry, Environmental Services and Support Areas. SFM's concept is clearly introduced in INAB and its plans. The actions of these areas are already being enforced, and there are preliminary studies that support their advances.

The Protected Areas Policy represents another general relevant framework to SFM, which along with the Strategy of Biodiversity, requires the coordination and co-execution of other institutions, as CONAMA (National Commission of Environment) and CONAP (National Commission of Protected Areas), which are part of the Ministry of Environment and Natural Resources (MARN). Gradually, the importance of these framework and strategy has been recognized by civil society through non-governmental organizations (NGOs), local and indigenous communities, as well as international donors.

### I.III) Diagnostics of local and rural forest communities

The main association of local and rural forest communities is the National Alliance of Forestry Community Organizations of Guatemala (ANOFCEG) that emerged as a result of the First National Meeting of Forestry Organizations of Guatemala in July, 2009. With the support of GFP and UICN, the Alliance is the result of years of coordination, and finally has achieved an administrative legal status and a Board of Directors to design strategies and concrete actions.

After several workshops, the Strategic Framework was defined for the next 4 years. In this framework are identified important issues such as mission, objectives, perspectives, critical factors, values, national and regional environment, as well as specific inputs. In its development 11 second-level community organizations, representatives of 427 organizations, 77,000 members, and over 388,000 indirect beneficiaries were involved. It is estimated that this

number represents over 750,000 hectares. This is the equivalent to 15% of the forestry coverage and half of the communal forests.

The Mission is “to influence the development of regulations and policies for the improvement of the life quality of the Guatemalan population, through the management and conservation of natural resources.” Its vision is to “be an inclusive body, with recognition, positioning, and representation to promote dialogue and cooperation through proposals for sustainable development in forestry matters for the benefit of communities and society in general.”

Among their substantive areas are:

- **Governance:** the purpose is to influence public policies, strengthening institutions such as INAB, CONAP, MAGA and MARN, and the fight against the illegal logging as well as the management and resolution of conflicts.
- **Financial mechanisms:** to enable and strengthen programs such as PINFOR, the institutionalization of PINPEP and the access to all kinds of financial mechanisms.
- **Competitiveness:** Promoting business culture and entrepreneurship, information and technology transfer, and the introduction to domestic and international markets.
- **Organizational strengthening:** Development of capacities and knowledge, institutionalization, exchange of experience and strategic alliances.

At the present time, the Alliance<sup>1</sup> already affects the public policy, specifically in Congress. Recently, its opinion was promulgated in the Roundtable of Economic Reactivation, Rural Development and Indigenous People, in order to give support to the creation of the Ministry of Rural Development. The forestry sector fulfills many of the 10 sectorial policies of the new Ministry such as the agrarian, reduction of vulnerability and risk management, environmental partner and forestry agricultural topics.

The difference between the associated communities and non-associated is marked by the access to funding, knowledge and public voice. Non-associated communities represent less than twenty percent of the forest cover in the country.

#### • Experiences and Lessons Learned

The experiences are positive regarding the organization of the Alliance. Despite the fact that they come from different parts of the country, a sense of community has been created. However, the problem is the fact that there is not still a consensus on the alliance’s role. .

The experience has shown that sharing a common cause is powerful. The Alliance has been brave to express an opinion and to influence public policy. Plus, it has dared to recognize weaknesses in their capabilities. Consequently, the first purpose is to educate the organization’s members.

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<sup>1</sup>See “*Alianza Nacional De Organizaciones Forestales Comunitarias de Guatemala*. (2010)”.

The first organizational meeting was an important event where people met and discussed the alliance's issues.

**• Challenges and Constraints**

Guatemala's weak rule of law is an important factor challenging these types of alliances and their growth. In addition, the financial uncertainty and the lack of support from the government questions the continuity of the efforts.

A particular constraint is the level of understanding of the technical issues in many of these organizations such as the technical-forestry, the sustainable forest management and the entrepreneurial and financial issues. As a result, the business and economic vision is weak and limited.

As described above, these constraints create challenges to meet the global direction toward globalization, indigenous rights, information technology, and climate change among others. Therefore, changes need to be made in the legal system as well as in the process of training its human resources so that they will acquire a clear understanding of the concept of SFM and the value of the forest.

**• Opportunities and Success Stories:**

Empowering the alliance through the increase of its network and organizational development will create a powerful platform for following opportunities:

- To promote and to educate the SFM's concept;
  - To provide training and education in the entrepreneurial, financial, economic and technical-forestry aspects;
  - To diffuse relevant information;
  - To reveal success stories;
  - To promote financial products;
  - To coordinate common efforts;
  - To diffuse world trends like REDD, certifications of products, new regulations, new actions and initiatives of government and the international cooperation;
- To provide alternatives to the use of firewood and to educate the population about other sources of energy that are less harmful to the environment and more efficient such as solar and hydroelectric power for cooking and heating.

The success' story is indeed the creation of the Alliance which was challenging in the beginning because it required a great deal of coordination and management for its success. Although at this time it does not cover 100% of the community forests, they are the main association and it will become stronger through time. If the support continues,

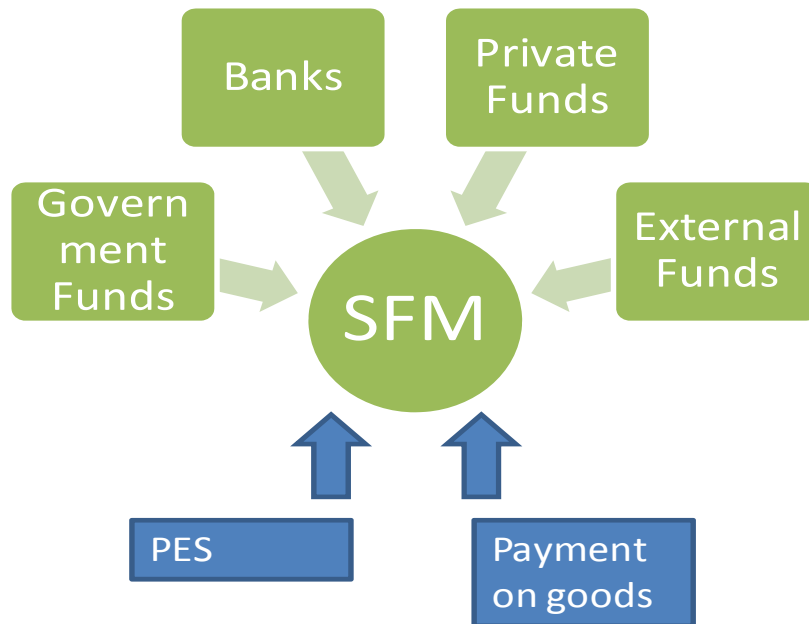
several positive results will be obtained for the communities and for the society in general.

#### I. IV) The National Strategy for Forestry Funding (ENFF)

Between the National Institute of Forests (INAB) and the National Forestry Program (PFN), the National Forest Financing Strategy (ENFF) is the financial guiding instrument in the forestry sector and SFM. This strategy arises from the collaborative effort of INAB with the support of the National Institute of Forests (FAO), International Union for Conservation of Nature (IUCN), Central American Commission on Environment and Development (CCAD), the Kingdom of the Netherlands and the GTZ Agency. The assistance began in 2005 and developed through several conceptual studies. The initial objectives were to identify and to analyze the financial mechanisms, which are able to impulse SFM, forest conservation and the increase of the capacity of PFN for the participative development of the national strategies.

ENFF attempts to change the vision of the forestry activity as well as to integrate SFM's concept and vision. Once the studies were completed, a workshop was organized where forestry and financial experts discussed and identified the inventory of financial instruments and existing mechanisms as well as ones that were missing or needed to be created.

ENFF is based on some assumptions such as the exceptional forest resources due to the rich Guatemalan soil and a short-sighted entrepreneurial and government outlook. In addition, it recognizes its limitations such as the degradation of soil, deforestation, environmental deterioration and the increase of risk. The central vision of ENFF shall be summarized in the following graph:



SFM's funds include investment from banks, government, and private and external sources as well as income from the payments of services or Payment of Environments Services (PES).

In addition, ENFF analyzes the challenging situation facing the Guatemalan financial and legal system such as taxation and business practices and regulations.

A series of thoughts concerning strategic aspects that affect the environment of the forestry sector are considered in this document:

- Supervision of the macroeconomic variables such as the overall performance of the economy, trade balance and remittances which influence the forestry sector. The local or municipal governments are also taken into consideration because they represent the rural economies;
- Interest rates and local funding conditions. The implementation of the existing Guarantee Fund, which was established in the article 242 of the Guatemalan Constitution, is necessary to allow Banks to offer long-term loans at lower interest rates since right now the high interest rates do not empower the development of projects in this sector.

Once the preliminary aspects have been identified, ENFF describes the strategic action lines to follow:

1. Inputs for an outlook change by facilitating planning and prediction tools;
2. Implementation of the Forestry Financial Intelligence Unit (UIFF);
3. Use of the existing credit lines.;
4. Sustaining the forestry sector with the design and consolidation of major support lines;
5. Suitability process of Program of Forestry Incentives (PINFOR) to the specific conditions;
6. Development of new financial instruments.

ENFF should focus in the following aspects that support the strategic action lines:

- Contribution to the strengthening of protected areas as well as the Guatemalan System of Protected Areas (SIGAP);
- SFM;
- Promotion of the forestry and plantations;
- The transformation process of the forestry sector is in an initial stage. More capital is needed, not only financial but new technologies, bigger plants and modern machines, that can be a major source of demand for raw material and to add value to them.

The National Competitiveness Program (PRONACOM) and the Forestry Cluster should be recognized as important groups that help to strengthen the forestry sector as well as provides a

forum where the public and private sectors meet. In addition, it is important to mention other institutions that support the forestry sector's efforts. They are SINAFIP (National System of Pre-Investment Funding) assigned to SEGEPLAN (Secretary of Planning and Programming of the Presidency), BANRURAL, as a bank with rural presence and innovation in agricultural matters, BCIE (Central American Bank for Economic Integration), Environmental Fund of Central America (FALIDES), Fund for the Strengthening of the Central American Exports (FOEXCA), the stock exchange and Interforest, which is a forestry company that has issued securities (short and long term bonds) in the stock exchange.

Furthermore, ENFF recognizes its desire to encourage innovative financial instruments for Guatemala such as: Forestry Securitization, Autonomous Trusts and Endowment Funds among others. ENFF has admitted that the Guarantee Fund is a key financial tool to promote bank support.

In conclusion, ENFF represents a positive financial strategy which is still a job in progress. After years of study, it was implemented and approved by INAB Board of Directors in 2009. Afterwards, concrete actions were implemented one of these actions is UIFF (Unit of Financial Forest Intelligence) which is explained below.

#### I. V) Forestry Financial Intelligence Unit:

UIFF was created in 2009 with Growing Forest Partnership's (GFP's) support of Food and Agricultural Organization (FAO). A financial sector specialist was hired to lead the unit under the facilitator of GFP in Guatemala. The mission of UIFF is "to increase the forest exposure in the local and international financial investments, to link the forestry and financial sectors, using adequate and timely means, according to ENFF."

The main areas of work are:

- The designing of new financial products;
- The increasing of economic and financial capacities in the forestry sector through education;
- The intermediation of information;
- The promotion of opportunities in the forestry sector.

One of the main tasks of UIFF is the need to translate the financial language into the forestry language and vice versa. The people coming from the forestry don't understand the financial language, there is a lot of misconceptions about what an investment is, among others. Furthermore, UIFF is responsible to identify projects, opportunities in the financial and forestry sectors as well as to share information between them so that they can work together.

Some of the products developed are:

- Forestry investors guide;
- Study of opportunities of the sector and its productive chain;

- Education and training seminars to the forestry sector;
- Training seminars regarding forestry assessment to the Superintendence of Banks and to the financial system;
- Permanent inventory of financial products;
- Financial technical assistance;
- Creation of Business Plans to forestry projects;
- Dissemination of INAB studies as Program of Forestry Incentives' (PINFOR's) benefits and impacts;
- Support to the study of the Forestry Development Trust in Guatemala to incorporate PES;
- Understanding and empowering the movements of REDD, United Nations Climate Change Commission (UNCC) by SFM.

After several months of studies, UIFF has concluded that even though there is funding to the Forestry sector, the financial sector has a lack of understanding of the benefits achieved by investing in this sector. Also, there is no information or intelligence available that decrease the perception of risk.

#### I. VI) Program of Forestry Incentives (PINFOR)

PINFOR was created under the Forest Law of 1996, in order to promote the reforestation, the creation of forests and SFM. The law established that 80% of the yearly amount of PINFOR shall be allocated to plantations and the remaining funds could be destined for the managing of natural forests. The yearly amount comes from the rule that 1% of the national budget has to go to this incentive program.

The incentives are a cash payment that the government grants to the owner of forests, in order to enforce reforestation projects or the managing of natural forests. The incentive is granted once the management plan is approved by INAB. PINFOR's mission is "to promote the creation of regional forestry production groups of high productivity to enable the supply of forestry competitive products, to reduce deforestation and to generate environmental services as well as employment in the rural area".

The vision of PINFOR is "to be the instrument of the forestry policy that promotes a major integration of the Guatemalan population to the forestry sector. PINFOR stimulates the investment for the establishment and management of forest plantations, the sustainable management of natural forests and the forestry with environmental purposes. PINFOR turns Guatemala into the leader of the production of goods and environmental services of the region." Among the objectives are:

1. To maintain and to improve sustainable forest production, integrating the natural forests to the productive economic output;
2. To encourage the maintenance and the creation of forests for the environmental services generation;



3. To generate a critical mass of forests that produce raw material, for the development of the forestry industry.

This program is transparent and efficient. PINFOR analyzes and approves each project. INAB is responsible for providing annual evaluations and to ensure the fulfillment of the forestry activities. Also, INAB will extend a certificate which will indicate the certified area as well as the amount to be paid. Consequently, the Ministry of Public Finances will proceed to make the payment on the dates scheduled for the effect. The statistics indicate that from 1998 to the end of 2009, the amount delivered by PINFOR was closed to Q893 millions, for a total of 88,500 hectares of plantations.

If an average exchange rate of Q8.0 per US\$1.0 is assumed, the quantity delivered exceeds the US\$110.0 millions in that period. The conifers represent 42% of plantations; the broad-leaved trees 47% and the rest are mixed. If the delivery is analyzed according to the owner, PINFOR has been assigned as follows:

- Individuals 41 %
- Companies 40 %
- Cooperatives 7 %
- Municipalities 6 %
- Civil society 7 %

Year	Coníferas (ha)	Latifoliadas (ha)	Mixtas (ha)	PINFOR Amounts (Q)
1993	26	-	-	-
1994	27	1	-	-
1995	45	-	-	-
1996	36	10	-	-
1997	579	309	-	-
1998	1,419	2,514	15	12,022,015
1999	2,509	3,148	4	49,229,723
2000	2,632	3,726	337	72,881,648
2001	4,002	4,352	749	82,302,233
2002	3,817	3,933	1,134	111,921,374
2003	3,425	3,329	949	101,684,689
2004	3,283	3,139	417	93,340,005
2005	3,812	2,577	1,414	78,660,671
2006	4,685	4,714	1,582	76,562,154
2007	4,191	5,840	950	94,649,138
2008	3,332	4,657	880	75,324,833
2009	-	-	-	44,574,291
<b>Total</b>	<b>37,822</b>	<b>42,248</b>	<b>8,432</b>	<b>893,152,774</b>

Source: Monterroso y Sales (2010)

There are more than 135,000 direct beneficiaries and 158,000 indirect ones. These figures are for the period 2004-2009 and it seems they are doubled compared to 1998. If it is analyzed by the size of the planted hectares (ha), it can be observed that a 45% was addressed for properties of 0 to 10 ha, followed by 20% for the rank of 10 to 20 ha, 11% in 20 to 30 ha, and so on. Geographically, Alta Verapaz, Petén and Izabal represent about 70% of the plantations. These regions possess great attributes and potential for the forestry sector.

PINFOR economic benefits have been wide and fully tested, some of these benefits are:

- PINFOR has estimated that during the period of 1993 to 2009, 5,400 permanent annual employments were created which total more than 19 millions workdays. Each employment generated Q11.000 per year. PINFOR has created new rural jobs which has helped the local economies. During the economic crisis of 2008 to 2009, this program could have been a very powerful tool of anti-cyclical policy, if it would have received more support.
- If the investment value is based at 2009 prices, the total amount shall be Q893 millions. On the other hand, if it is compared to the trees' sale price, the investment shall be recovered. The estimated sale price is around Q1, 900 millions, without taking in consideration the transformation process price, only the tree value.
- If it is considered the spillover effect of PINFOR, the numbers should be even larger in the growth contribution, fiscal revenue, new jobs, additional investment in working capital and capital goods among others.

#### I.VII) Program of Incentives to small land owners with forestry or agro-forestry resources (PINPEP)

PINPEP is an incentive program created to support the same objectives of PINFOR but to land owners that have some trouble to prove the legally ownership of their areas. It is accepted as prove of ownership a certificate issued by the General Registry of Property, a certificate issued by the Municipal Mayor of the jurisdiction of the land location, or through legalized photocopy of the purchase contract of the corresponding land. Remember that Guatemala faces a problem in his land registry as well as with the legal proceedings of property registry, particularly in the agro-forestry and rural areas.

PINPEP has several components such as: natural forest management for protection or production and the establishment and management of plantations or agro-forestry systems. All of them addressed to projects that count for 15 hectares or less, for individual projects, and projects larger than 15 hectares, which are organized social groups integrated by several small producers. The owners of the natural forests management projects will receive incentives during five years, in accordance with the amounts of the incentives in force. While the owners of the establishment and management of plantations and agro-forestry systems projects will receive incentives during the establishment year and for two years of maintenance.

PINPEP incentives are delivered based on an existing municipal geographical pre-selection. The geographical coverage of the project includes 79 municipalities selected under the criteria of those who are affected by the starvation and the poverty; these municipalities belong to the departments of Zacapa, Chiquimula, Baja Verapaz, El Progreso, Jalapa, Jutiapa, Chimaltenango, Huehuetenango, Quiche, Sololá, Totonicapán, Quetzaltenango and San Marcos.

The specific objectives are:

1. To extend the participation of small land owners in the benefits of the forestry incentives of natural resources, plantations and agro-forestry systems management;
2. To encourage the gender equality by means of the participation of women groups in the managing of natural forests and the establishment and maintenance of agro-forestry systems;
3. To generate employment in the rural area and enforcement of wages, which are necessary for the establishment and maintenance of the projects of natural forests and forestry plantations management;
4. To strengthen the processes of participation of the local government in the decision making through the coordination with the National Association of Municipalities.

Unlike PINFOR, PINPEP counts with direct funding from The Netherlands and its cooperation. The total commitment of PINPEP for the period 2006 to 2012 is Q90 millions of which Q63 millions were granted by The Netherlands and the rest by INAB. The allocation of the incentive funds are to those areas that are vulnerable to climate, starvation and other types of risks. That's why the PINPEP is a high impact programme. The number of projects exceeds 4,000 and the total amount of the hectares is 20,000.

Around 57% of the contributions have been assigned for protection, 19% for plantations, and the rest for productive support. PINPEP projections are favorable since they enter into areas where the forestry sector is a priority to reduce the environmental and economic vulnerability. In 2009 and also in 2010, the Guatemalan government decided to stop its financial contribution, which has generated an impact in future projections, has also frozen the contributions from The Netherlands since its financial commitment was conditioned to the government support.

At present time, there is lobbying to implement the proposed Law 3397 as well as roundtables in Congress. This Law intends to institutionalize PINPEP, PINFOR enlargement and to block the discretionary reduction of the budget to INAB. Many members of Congress, indigenous groups as well as local communities have expressed their support for these initiatives.

#### I.VIII) Other programs and minor mechanisms

##### *PPAFD - Direct Forestry Support Program:*

This program is designed to compensate in economic terms the environmental services that the forest provides without access to PINFOR. The objective of this program is the conservation of the natural forests located in strategic areas of the central and western high plane of the country. The owners and/or landholders receive a direct payment to compensate and guarantee the environmental services they grant for the protection of the soil and watersheds.

This pilot program intends to grow over time. Currently, the funds are devoted to specific projects related to forest, water access, and land degradation among others. It is managed by MAGA. At this time, more than 3,000 sources of water have been protected with the

commitment of local authorities and 221 beneficiaries distributed as follows: 67 municipalities, 72 communities and 82 individuals. Regarding the forests, the program protects about 34,000 hectares. Plus, it promotes the forests SFM production, provides support to greenhouses and the distribution of the seeds for the plantations of trees as well as the organization of events such as the First Ecological Meeting, which includes a educational project about the central highland region.

### *Mechanisms, Programs and Funds of the Ministry of Environment and Natural Resources (MARN)*

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The Ministry of Environment and Natural Resources (MARN) is in charge and is also the leader in the fight against the deforestation and drought of UNCC. In fact, the financial strategy of 2009 is the searching of funds and its mobilization.

MARN has several funds for REDD among them are:

- Guatemalan Fund of the Environment (FOGUAMA)
- National Fund for the Conservation of Nature (FONACOM)

INAB plays an important part and has a wide communication with MARN, particularly in the area of PES. These two groups have worked and prepared studies together but without any concrete results. INAB poses the strategies, the knowledge and the awareness of the actions to take in a nearby future.

The mechanisms to finance these instances have been identified by MARN. Some of these mechanisms are taxation to gas emissions, garbage residues, energetic products, oils and batteries plus some additional ideas.

Certainly, one of the most innovative mechanisms is the debt exchange. The government debt holder absolves a debt quantity if these resources move towards social issues and/or environmental areas. For example, the United States of America (USA) made use of this mechanism for an amount of US\$24 millions.

### *National System of Pre-investment Funding (SINAFIP)*

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This system is part of the Secretary of Planning and Programming of the Presidency (SEGEPLAN) and its purpose is to finance the pre-investment of the financial resources. Inside ENFF, it is admitted that the pre-investment issue is a key to develop this sector. Remember that forestry projects need resources before their implementation to increase the chances of success and funding.

### *Environmental Fund of Central America (FALIDES)*

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This fund is managed by the Central American Bank for Economic Integration (BCIE) for SFM and environmental areas. It can invest or co-invest with other institutions in related projects. This fund shall be assigned either to public or private sector.

## II) Financial needs and gaps in the Sustainable Forests Management (SFM) in Guatemala:

### II.I) Guatemalan Financial Sector/Public Financing and their capabilities to fund forest needs

The Guatemalan government has reduced from the 2010 national budget, the amount of the funds that were destined to the forestry sector. The national budget is managed by the Department of the Treasury (MINFIN). The tax burden which is the public income in relation to GDP was reduced due to the economic crisis from 12.1% in 2007 to 10% in 2010. In 2009, the tax income fell at a pace of 10%.

The forestry sector needs supports from the public sector; however, the Guatemalan government is facing other issues such as:

- Lowest income in the region. Latin America counts on an average tax burden of 18% of GDP according to the Organization for Economic Cooperation and Development (OECD). Guatemala has kept 11% as average on the last 3 years.
- Even though the public debt indexes are low regarding GDP (about 25% in comparison to about 45% for Latin America), the low income do not enable the state to acquire long-term investments.
- The fiscal strategy is not clear. The lack of political support and the lack of transparency of the fiscal managers have not enabled to solve the structural issues of equity and debt, which make impossible the execution of the public investment the country needs, including the forestry and environmental issues.
- The executive and legislature powers have not given the level of importance to the forestry and environmental issues. The forestry sector is not in the national debate right now.

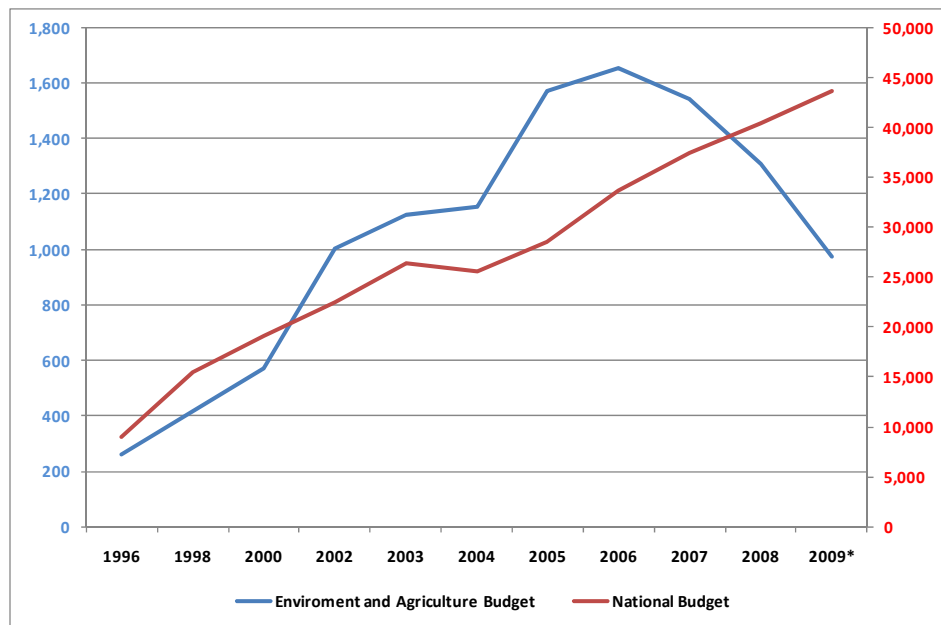
#### State Budget

Description	1996	1998	2000	2002	2003	2004	2005	2006	2007	2008	2009*	Average
<b>Total</b>	8,997.4	15,517.1	19,109.8	22,541.1	26,333.4	25,542.2	28,500.5	33,721.4	37,382.1	40,355.4	43,708.8	
Administrative	1,587.2	2,571.2	3,142.4	3,052.2	3,561.5	3,343.1	3,665.8	4,155.9	5,067.2	5,575.0	5,108.0	
Defense	1,077.9	1,476.3	2,177.8	2,364.3	2,788.7	2,169.2	2,205.2	2,525.1	2,725.3	3,097.5	3,476.4	
Social Service	3,772.9	7,132.9	8,734.1	11,444.0	13,153.9	13,342.8	15,770.3	17,876.2	18,915.4	20,702.6	24,826.5	
Environment	31.8	19.5	105.4	169.0	204.7	194.0	675.1	701.6	648.2	309.0	335.6	
Economic Service	1,493.8	2,976.1	3,224.5	3,411.3	4,563.0	4,085.7	3,935.9	5,981.8	6,782.7	6,954.4	5,923.8	
Agriculture	227.8	398.9	464.6	833.0	920.7	957.8	897.9	952.1	896.1	1,001.8	638.6	
<b>Environment y/y Growth</b>	-10.4%	-72.0%	177.4%	34.6%	21.1%	-5.2%	248.0%	3.9%	-7.6%	-52.3%	8.6%	41.4%
<b>Agriculture y/y Growth</b>	-10.1%	59.1%	-23.1%	-4.8%	10.5%	4.0%	-6.3%	6.0%	-5.9%	11.8%	-36.3%	11.1%
<b>Total</b>	12.8%	34.7%	2.0%	5.7%	16.8%	-3.0%	11.6%	18.3%	10.9%	8.0%	8.3%	13.3%
<b>Environment % total</b>	0.35%	0.13%	0.55%	0.75%	0.78%	0.76%	2.37%	2.08%	1.73%	0.77%	0.77%	0.9%
<b>Agriculture % total</b>	2.53%	2.57%	2.43%	3.70%	3.50%	3.75%	3.15%	2.82%	2.40%	2.48%	1.46%	2.9%

Fuente: MINFIN

The table above shows the effective budget execution. In 2009, the environment represented 0.77% of the budget, a clear decrease of the 2005 level when it represented 2.7% of the total budget. Something similar happened with the agriculture sector, it is important to emphasize that INAB is a branch of the Ministry of Agriculture, Livestock, and Food (MAGA). In 2009, that sector represented 1.46% of the budget in comparison to a 3.75% in 2004.

From the beginning of its functions, the current government administration has reduced about 50% of the budget for INAB. The lack of vision and support toward the forestry sector is evident. The graph below shows the behavior of the environmental and agriculture budget against the annual national budget. On the right side, it is shown the national budget with a clear tendency to rise, while on the left side MARN and MAGA's budget show a decline in the last three years.

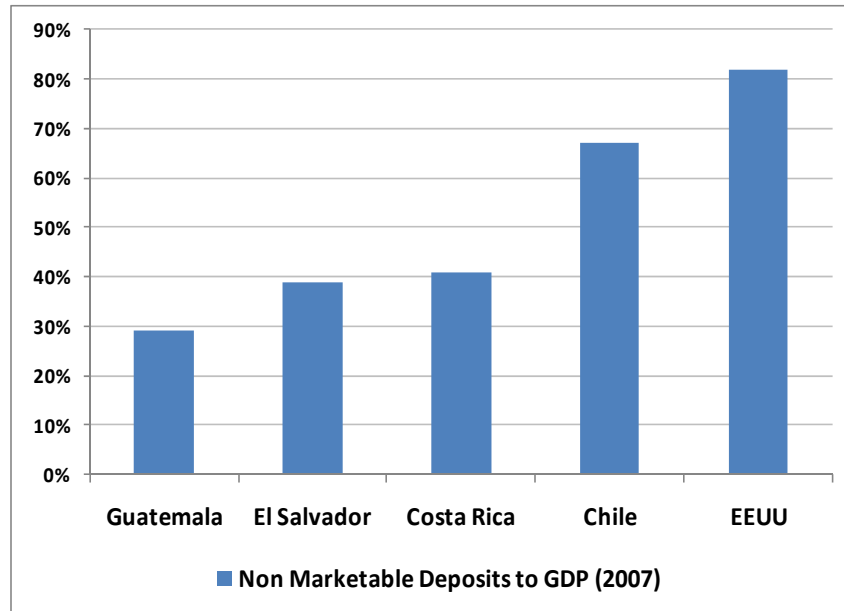


The Guatemalan financial sector has a low level of penetration and it is formed by basic institutions such as: commercial banks, financial institutions, Insurance companies, and the Bolsa de Valores Nacional (National Exchange). In contrast, a large and increasing informal sector (not regulated by the Superintendencia de Bancos-SIB) has appeared which is composed by Credit Unions and NGO's that provides financial services.

The Financial sector went through a major reconstruction period which was based on the establishment of new laws<sup>2</sup>. The main goal was the modernization of this sector; however, the results did not match the expectations. In addition, several financial institutions declared bankruptcy and others were accused of committing frauds resulting in a loss of confidence from investors and some of them decided to move their capital into others types of financial institutions. (De León, 2007).

<sup>2</sup> De León (2008).

In 2007, the depth of the financial system in Guatemala measured by the deposits to GDP ratio was 29%. The graph below compares this level with other countries in the region. It's clear that the banking system in Guatemala is undeveloped.



If we consider the investment part of the financial system which is the Exchange traded volume, the underperformance is even worst. In general, this is a problem of the Central American exchanges market: low level of volume and securities and lack of buyers. There is no trading in companies' shares and the amount of bonds issued is small. The market capitalization to GDP of bonds and equities in Chile is almost 200% compared to 230% in USA. This same ratio in Costa Rica, El Salvador and Guatemala is almost 0%.

Other characteristics of the financial system are: (De León 2007)

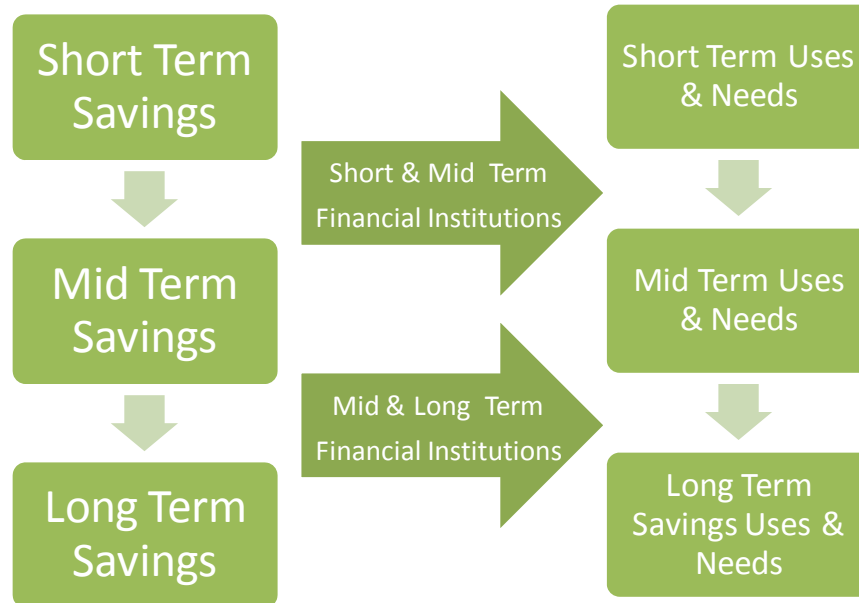
- Low levels of efficiency in the intermediation of funds, resulting in high spreads;
- Low levels of foreign institutions in the local market;
- No integration with the world markets.

These financial factors affect society in a negative way as well as on all the economic sectors increasing the costs of services, innovation and technology. The forestry industry is affected as follows:

- Low level of credit access. According to the World Bank (Beck 2004), the number of individuals in Guatemala that have access to credit is 46 per 1000, compare to Chile (416), El Salvador (126), Nicaragua (95), Perú (77), Ecuador (77);
- Credit to corporate sector is not easy to get. 48% of the banking assets are allocated to the private sector, the rest to the government, compare to El Salvador (67%), Costa Rica (55%), Chile (75%) y United States (60%);

- Forestry and agricultural sector are almost not serviced by Banks. Only 6% of the credit to the private sector goes to these activities.
- There is a high concentration of credit in the major city, Guatemala City.

The next graph is of significant importance from a different point of view. The problems mentioned above are real, but there is one that is even more important.



As you can see in the diagram, in the left side we have savings generated by individuals, families, enterprises and government, and in the right side we have the demand of funds. We can break the savings and the demand in to short, medium term, and long term. Each type of excess saving or funds is intermediated by specialized institutions.

The principal issue for the Guatemala forestry sector is that Guatemala lacks the existence of a long term financial institution that can provide long term funds (loans) for projects that last for 15 or more. The forestry sector is in need of this type of funding; however, the financial sector is not currently prepared to provide this service. Consequently, the long term financing is the main drawback for the forestry sector. This lack of credit produces:

- A culture of no savings
- Low levels of economic literacy
- Low levels of entrepreneurship
- Lack of long term valuation experts
- Lack of project valuation and implementation consultants
- Lack of competition among financial institutions
- No recognition of the benefits of a better financial system
- The system is incapable of solving the following roles:

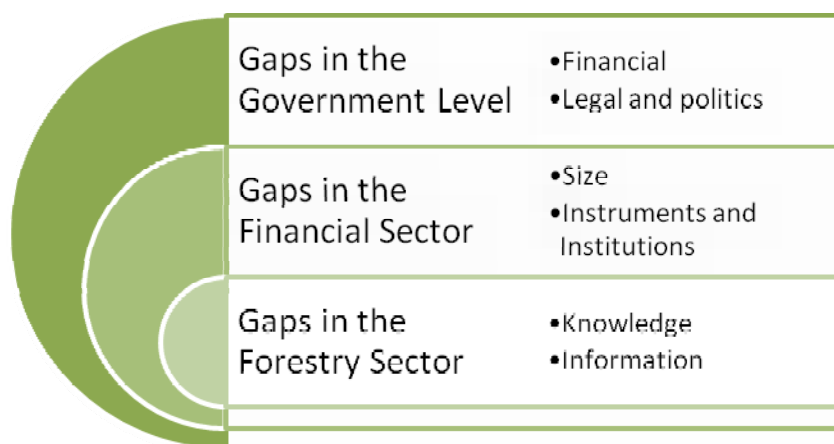


- Risk mitigation
- Monitoring
- Reallocation of resources
- Reducing transactions costs
- Reducing information costs.

## II.II) Gaps and Shortfalls in the Forestry Sector

The financial deficiencies in the forestry sector for the Sustainable Forests Management (SFM) are similar to other sectors of the economy. The Guatemalan government finances and low level of budget allocation to the forestry institutions show that there are important restrictions that compromise resources and to fund structural changes. . On the other hand, the financial system of Guatemala is underdeveloped and unable to provide the financial solutions and tools needed to fix the problems. For the forestry sector, the main failures come from a lack of technical and entrepreneurship capacities.

The following graph shows a brief description of the public and private shortfalls (forestry and financial). The information in the graph reveals that the above mentioned gaps arise from these areas and its interactions.



The forestry sector in Guatemala constitutes a small percentage of Gross Domestic Product (GDP) which means that its contribution in the creation of added value is irrelevant despite of the fact that this represents about 40% of the territory. The table below shows that the forestry sector represents about 3% of GDP compared to other sectors of the economy. This sector lost relevance during the last economic expansion of 2002 to 2006.

Forestry GDP	1991	2001	2002	2003	2004	2005	2006
Forest Sector % of GDP		2.50	2.77	3.10	2.75	2.60	2.58
Employment in forest and related areas	81,789	504,644	515,942	530,538	536,229	538,225	572,499

Source: IARNA\_URL

Trade Balance	2007
Trade Balance Forest Products	(89,573)
Forest Products Imports (US\$)	176,633
Forest Products Exports (US\$)	87,060

Source: IARNA-URL

In 2007 the trade balance exhibited a trade deficit. Further economical analysis showed that the existing problem in Guatemala was that the imports consist of primary goods while the exports consist of secondary and tertiary goods. This situation reveals a problem of inputs in the industry of forestry transformation in which not enough raw materials are produced to fill the industrial capacity.

In addition to the needs identified throughout the years by the economic studies, domestic actions and the generous international aid, it is necessary to point out the following new and existing needs for the forestry sector:

- Enforcement of the Forestry Plan and the Forestry Financial National Strategy. This implies communicating, disclosure, coordination, and execution of them;
- Education in of new technological tools and forestry strategies, especially SFM's concept;
- Enforcement of the Forestry Financial Intelligence Office (UIFF), which is mentioned below, and any other entity, office, or institution that has played an important role by providing information, support, knowledge, facilitation, and promotion of this sector with the financial and the political organizations;
- Improvement of the governance process;
- Establishment of public and private alliances, as well as the channeling of international cooperation.

Therefore, the public financial needs for this sector shall be classified in the following



areas:

The strategic areas enforced by the state are the protection and conservation of natural forests, forestation and reforestation incentives as well as to promote SFM, fight against the reduction of forests and land, management of watersheds, hydrological resources, environment, reduction of vulnerability and energetic matrix change. All these needs can be funded by new ways of tax collections that go specifically to this effort such as Green Taxes, incentives among other tax tools.

The definition of an Institution is still unclear in the academic circle. In Chang (2007), it is recognized that institutions play a critical role to explain the difference among countries. The institutions are created throughout time in order to solve specific issues. For example, ¿How a society solve the forestry or environmental issues? The answer depends on the institutions behind it. Based on the data provided above, the forestry and environmental institutions are in a difficult situation since they cannot make short-term plans or to have a long-term vision.

The needs of the financial sector are determined by the type of activities performed in the production chain.



- Financial needs of the Primary Forestry Sector: This is the initial stage of the chain and its needs and requirements are:
  1. Long-term funding, debt or equity of 15 to 25 years;
  2. Technical capacities for SFM;
  3. Increase entrepreneurial capacities of the small producers as well as the local and indigenous communities;
  4. Introduction of environmental and climate change factors measures by Reducing Emissions from Deforestation and Forest Degradation (REDD) and United Nations Framework Convention on Climate Change (UNFCCC) among others.

Forest Products Extracted 1999 - 2004					
Year	Log (m3)	firewood (m3)	Wood (m3)	Carbon (m3)	Total (m3)
1999	501,523	145,460	1,541	119	<b>648,643</b>
2000	341,633	134,205	1,158	3,268	<b>480,264</b>
2001	286,524	196,856	4,578	3,535	<b>491,493</b>
2002	310,438	258,409	4,924	3,354	<b>577,125</b>
2003	426,179	259,628	12,216	7,969	<b>705,992</b>
2004	283,044	207,781	13	6,499	<b>510,426</b>
<b>Total</b>	<b>2,149,341</b>	<b>1,202,339</b>	<b>37,519</b>	<b>24,744</b>	<b>3,413,943</b>

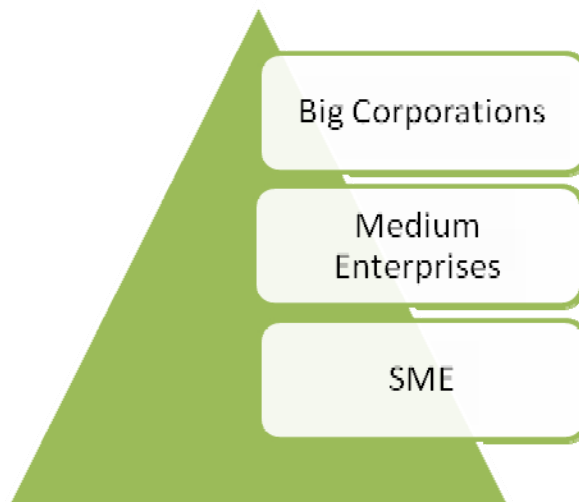
Source: INAB

The table above shows that the primary sector is important in Guatemala. The use of firewood is common. In fact, the energy matrix shows that the use of firewood represents 50% of all the sources; consequently, it is the main source of power generation in the country. Changing the attitudes of the consumers; plus, offering other options to satisfy their energy needs is crucial such as gas for cooking, and solar technology for lightning and other activities.

- Financial needs of the Secondary Forestry Sector: at this stage of the production chain, the raw material is transformed and it requires different funding characteristics. The terms are smaller and currently the subsector financing needs are not satisfied.
  1. Working capital funding (short-term financing, up to one year). It might be debt, leasing or factoring.;
  2. Capital investment (medium-term financing, from 1 to 10 years). Debt or equity;
  3. Entrepreneurial capacities particularly the Small and Medium Enterprises (SME). The level of financial knowledge in Guatemala is limited, but it is even more evident in the forestry sector. To improve the entrepreneurship in this sector is crucial;
  4. Incorporation of topics of social responsibility and certification;
  5. Competitiveness through market intelligence, technology transfer and new markets.
  
- Financial needs of the Tertiary Forestry Sector: These are final products and its transformation needs a different kind of financing.
  1. Working capital funding (short-term, up to 1 year). More focused on trade finance;
  2. Capital investment funding (medium-term, from 1 to 5 years). Debt or equity;
  3. Entrepreneurial capacities, particularly SMEs in matters of quality improvement, productivity, financial planning and cash management;
  4. Incorporation of topics of social responsibility and certification. The international pressure is increasing for these certifications;
  5. Competitiveness through market intelligence, technology transfer and new markets.

The level of activity in this last subsector (tertiary) is increasing, according to the Forestry Products and Wood Furniture Manufacturers Commission (COFAMA) that belongs to Main Exporters Chamber (AGEXPORT). At the present time, the Association gives service to 90 companies and provides them with market intelligence, statistical analysis, design and innovation among others, including the topic of social entrepreneurial responsibility. The most important events are *EXPOMUEBLE* and *EXPOFORESTAL*. The main export market is the United States of America, followed by México, El Salvador and Honduras. Italy is the fifth country. In 2007, the exports reached US\$88 millions from US\$35 millions in 1999. The goal for 2010 is to surpass the US\$100 millions mark.

The previous analysis regards the financial needs by product type. An interesting additional analysis is the financial needs by the size of the production or entrepreneurial unit. Their needs are:



- The needs of large companies are not satisfied; they demand innovative financial instruments and means. Some of them are:
  - Specialized Funds that requires scale and a broad team of financial experts;
  - Financial intermediaries specific for short, medium, and long-term credits;
  - Stock exchange mechanisms;
  - Improvement of the rules, laws and standards of the country that generate a lower country risk and a legal certainty;
  - Insurance and risk mitigation instruments;
  - Certifications and social responsibility.

These forest companies do not have many options in Guatemala. The financial system is small and underdeveloped, as we will consider ahead. Usually, for funding their projects they use their own resources. The size of the banking system in Guatemala does not enable to assist projects for more than US\$ 20millios. But more than the amount, project finance capabilities are needed in the financial institutions.

- Medium enterprises needs: they are more sophisticated than the micro and small enterprises, but also they have financial requirements not satisfied. They need:
  - Traditional intermediate financial experts that finance short, medium and long-term credits;
  - Technical capacities of SFM;
  - Insurances and risk mitigation instruments;
  - Introduction of environmental and climate issues;
  - Certifications.

This segment of the forest companies can be assisted by the existing capacity of the financial system at the present time, but they do not count on it. There is a clear lack of understanding in the financial sector about the forestry sector. The traditional financial products such as debt, trade finance and working capital are available, but they do not count on mechanisms of risk reduction yet.

Though the technical level is not at the level of the large enterprises, the median ones count on micro knowledge of the business but cannot afford market intelligence services and certification processes.

- Micro and small enterprises needs: they are less sophisticated and often associated with local and indigenous communities, or rural associations. They need:
  - Nontraditional Financial intermediaries who finance for short, medium and long-term credits;
  - Technical capacities of SFM;
  - Entrepreneurship and financial education capacities;
  - Insurances and risk mitigation instruments;
  - Introduction of issues like use change of energetic generation, reduction of vulnerability;
  - Diversification of Forest products and services as tourism and PES among others

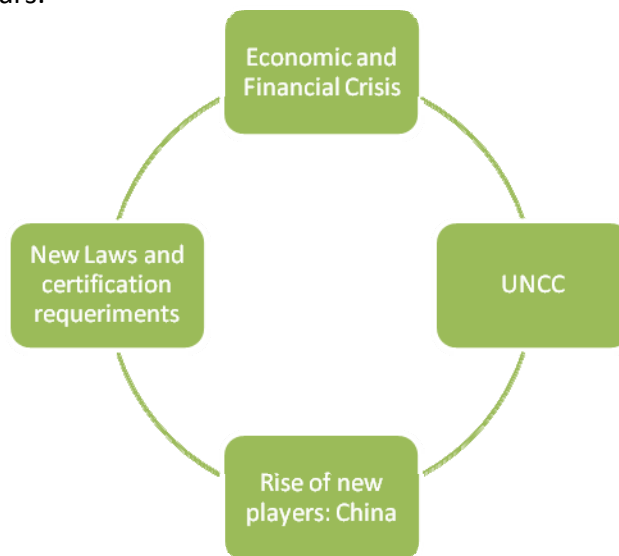
This is the least assisted segment in the country; therefore, currently his members associate the financial needs with donations. Nevertheless, the microcredit segment in Guatemala has grown and uses the correct models for these specific clients. The forest sector is not strategic among the big actors of the microcredit segment; it is needed to raise their importance among them.

The financing model must consider that the money delivered is accompanied by financial, economic, business, and environmental education. The financial products had to be suitable to the reality, and pilot plans are needed in order to reach and offer them.

### II.III) The world financial crisis: its effects in the Guatemalan wood markets and long-term perspectives

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The graph below show the main tendencies discovered that will shape the forestry sector's future in the coming years.



First, Guatemala was affected by the financial world crisis of 2008 to 2009 in different ways. Despite of the fact that the domestic markets are underdeveloped and have little relation to the world markets, the financial local system was directly affected by the prepayment of external credit lines, mechanism that was used in the previous years to feed a credit boom in the country. The main recipients of this boom were the consumption and trade sector, and in a lesser way, the real estate sector. When the financial crisis exploded, the international banks that lent to the local banks called the lines to cover their financial needs, causing a severe credit crunch in 2008. This event advanced the crisis and its striking real effects that took place in 2009. The real contamination channels were the decrease in the exports (including the forestry sector), the decrease in the remittances flow of the Guatemalan migrants, mainly in the USA<sup>3</sup>, the decrease in the flow of foreign direct investment, and the decrease in the price of some export products, among others.

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<sup>3</sup> The remittances in Guatemala constitute about US\$ 4,000 annual millions, something like 12 % of the GDP. This flow is not kept in the banks, and the studies show that they are consumed in 95 %. There is no saving culture.

After two years of the crisis, the banking system, intermediary of more than 90% of the flows in Guatemala, keeps a risk aversion attitude, based on the country risk status, which is shown in political noise and insecurity. In addition, the emission of public debt has caused a crowding out for second year in a row, reducing the availability of funds to the private sector.

It is important to mention the effect of the crisis regarding the wood markets. The study of Villazon (2009) shows important changes in Europe because of the crisis, as well as in the USA, because of the real-estate crisis that is closely linked to the topic. Japan, which is a wood customer, has declined its annual orders, and continues doing it; whereas China is a new important actor who seeks raw material. The following table shows the reduction in the volume of transactions of forest products.

Apparent consumption of sawnwood<sup>a</sup>, wood-based panels<sup>b</sup> and paper and paperboard in the UNECE region, 2004-2008

	Thousands	2004	2005	2006	2007	2008	Change 2007 to 2008	
							Volume	%
Europe								
Sawnwood	m <sup>3</sup>	114572	116376	116777	124418	111278	-13140	-10.6
Wood-based panels	m <sup>3</sup>	62695	65234	67961	75105	71896	-3209	-4.3
Paper and paperboard	m.t.	91756	94819	98229	99670	96027	-3644	-3.7
Total	m <sup>3</sup> EQ <sup>c</sup>	594681	612013	628578	657119	618609	-38510	-5.9
of which: EU27								
Sawnwood	m <sup>3</sup>	101423	102491	102729	110485	97765	-12720	-11.5
Wood-based panels	m <sup>3</sup>	56078	57258	60052	66109	62681	-3428	-5.2
Paper and paperboard	m.t.	85308	86802	90158	90666	87511	-3155	-3.5
Total	m <sup>3</sup> EQ <sup>c</sup>	541196	549858	566084	589909	553374	-36534	-6.2
CIS								
Sawnwood	m <sup>3</sup>	12336	13380	14122	15389	16306	917	6.0
Wood-based panels	m <sup>3</sup>	9132	10251	11645	13609	14300	691	5.1
Paper and paperboard	m.t.	6763	7450	8190	9000	8973	-27	-0.3
Total	m <sup>3</sup> EQ <sup>c</sup>	57274	63065	68993	76909	79389	2480	3.2
North America								
Sawnwood	m <sup>3</sup>	154644	157372	149677	134146	110466	-23680	-17.7
Wood-based panels	m <sup>3</sup>	66524	69070	69033	61639	49936	-11703	-19.0
Paper and paperboard	m.t.	98614	98603	98080	96187	89028	-7159	-7.4
Total	m <sup>3</sup> EQ <sup>c</sup>	688169	696571	682428	639330	558448	-80882	-12.7
UNECE region								
Sawnwood	m <sup>3</sup>	281552	287128	280576	273954	238051	-35903	-13.1
Wood-based panels	m <sup>3</sup>	138351	144555	148639	150353	136131	-14222	-9.5
Paper and paperboard	m.t.	197133	200872	204500	204858	194028	-10830	-5.3
Total	m <sup>3</sup> EQ <sup>c</sup>	1340125	1371649	1380000	1373358	1256446	-116912	-8.5

Notes: <sup>a</sup> Excluding sleepers. <sup>b</sup> Excluding veneer sheets. <sup>c</sup> Equivalent of wood in the rough. CIS sawnwood consumption is based on secretariat estimates, explained in detail in chapter 5, section 5.3.

Sources: UNECE/FAO TIMBER database and secretariat estimate, 2009.

The crisis not just impacted that side, it also affected the credit availability and financial flows; besides, the increase of the non wood products substitutes of wood competition was another impact of the crisis.

The previous analysis shows three long-term tendencies that are structural to take into account in the forestry future scenario:



First, the financial world system shall go through a process of restructuring, and reengineering, but the most painful process will be the elimination of leverage, to which they will be subject to, diminishing the financial intermediation and innovation for many years into the future. These processes take time and they are predicted to last for the next 10 years.

**Apparent consumption of sawnwood<sup>a</sup>, wood-based panels<sup>b</sup> and paper and paperboard in the UNECE region, 2004-2008**

	<i>Thousand</i>	2004	2005	2006	2007	2008	Change 2007 to 2008	
							Volume	%
Europe								
Sawnwood	m <sup>3</sup>	114572	116376	116777	124418	111278	-13140	-10.6
Wood-based panels	m <sup>3</sup>	62695	65234	67961	75105	71896	-3209	-4.3
Paper and paperboard	m.t.	91756	94819	98229	99670	96027	-3644	-3.7
Total	m <sup>3</sup> EQ <sup>c</sup>	594681	612013	628578	657119	618609	-38510	-5.9
of which: EU27								
Sawnwood	m <sup>3</sup>	101423	102491	102729	110485	97765	-12720	-11.5
Wood-based panels	m <sup>3</sup>	56078	57258	60052	66109	62681	-3428	-5.2
Paper and paperboard	m.t.	85308	86802	90158	90666	87511	-3155	-3.5
Total	m <sup>3</sup> EQ <sup>c</sup>	541196	549858	566084	589909	553374	-36534	-6.2
CIS								
Sawnwood	m <sup>3</sup>	12336	13380	14122	15389	16306	917	6.0
Wood-based panels	m <sup>3</sup>	9132	10251	11645	13609	14300	691	5.1
Paper and paperboard	m.t.	6763	7450	8190	9000	8973	-27	-0.3
Total	m <sup>3</sup> EQ <sup>c</sup>	57274	63065	68993	76909	79389	2480	3.2
North America								
Sawnwood	m <sup>3</sup>	154644	157372	149677	134146	110466	-23680	-17.7
Wood-based panels	m <sup>3</sup>	66524	69070	69033	61639	49936	-11703	-19.0
Paper and paperboard	m.t.	98614	98603	98080	96187	89028	-7159	-7.4
Total	m <sup>3</sup> EQ <sup>c</sup>	688169	696571	682428	639330	558448	-80882	-12.7
UNECE region								
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**Sources:** UNECE/FAO TIMBER database and secretariat estimate, 2009.

Second, the financial crisis enters into its second stage. The first one was a crisis caused within the private sector, a contamination of the real estate sector to the financial sector, with the effects already known. The second stage concerns the Governments; Europe's problems and its high deficits and high levels of fiscal debt have called the attention towards a future in which the governments will have to enter a process of account restructuring. This situation will definitely diminish the availability of financial flows of support, and consequently the reduction of the international cooperation. In fact, several European agencies of cooperation have announced important cuts. The competition for these funds will be intensified.

Third, a tendency towards major certifications and standards is observed not related to the crisis. Even though they make the processes more expensive, they are necessary and the right thing to do. The environmental issue has been strengthened in the last decade; nowadays the climate change, the renewable energy and the emissions reduction are more relevant than ever.

The international discussions regarding global policies on these topics will be hastened in the next decade.

#### II.IV) The effectiveness of financial flows to the forestry sector

First, it is important to mention that there is no centralized information of the resources assigned to the forestry sector and to SFM; neither the information regarding the resources flow, nor the one concerning the investment flows or financial products.

The following is a flow inventory by the source and executor. As previously mentioned is very difficult to identify the amount of each fund, and even more difficult to identify what is performed in a given period. However, it is important to list them because they are identified and related to the forestry sector in general and not only to SFM:

- Public Sector: according to the executor, it shall be divided to:
  - Central government:
    - FONAPAZ
    - FIS
    - Forestry Guarantee Fund
    - FOGUAMA
    - FONACON
    - FONAGRO
    - PINFOR
    - INAB
    - CONAP
    - *Bosques de la Concordia*
    - MARN
    - MEM
    - MAGA
  - Municipalities
    - INAB private funds
    - Individual municipalities
- Donations: with government counterpart
  - PINPEP
  - PRODAM
  - FUNDAP
  - *Proyecto Cuchumatanes*
  - Water Fund

- Loans: may be international and local
  - PPAFD (performed by MAGA).
  - Cooperatives as FEDECOVERA
  
- Financial intermediation:
  - Local Banks: there is no a direct forestry entry data in the Superintendence of Banks;
  - Stock Exchange, only Interforest has placed financial papers emission;
  - International loans: IFC, BCIE and other agencies that borrow to the sector, but there is no consolidated information regarding it. Specifically, the BCIE is promoting its specific funds listed above, and the Fund for Biodiversity in Central America.
  
- Regarding international cooperation, the flows or related estimated funds are:
  - Comprehensive development in areas of potential risk US\$40 mm
  - Feasibility Study of Property Establishment US\$0.5 mm
  - Special Program for Food Security FAO SPFS US\$4.2 mm
  - Land Management IBRD US\$62.3mm
  - Agricultural Diversification - FAD Spain US\$24 mm
  - Assessment Study of Biomass US\$0.42mm
  - Sustainable Management of RN S.C. The Netherlands US\$3.6mm
  - Strengthening to the fight against forestry illegality FAO US\$ 3.6 mm
  - Others are GFP FAO, UNFF, UNDP

These are estimates extracted from reading documents; neither exist a mechanism to verify the performance, efficiency and effectiveness of the funds and this is a task that shall be included within the suggestions.

#### • Experiences and Lessons Learned

The budgetary cut of INAB is a lesson that the forestry sector shall entirely learn. To prevent this type of problems, not only the institution but also the Cooperation, Alliances, NGO's and representatives of the private sector shall coordinate actions.

The experience of FAO, GFP, and UICNC support, among others, has been positive, not only for the financial commitment, but also by the development of capacities to actors within INAB and sector leaders. The relationship with foreign counterparts, the information flow, and share of experiences has been extremely positive.

There are no clear incentives and knowledge in the people to turn to SFM. It is an important lesson and experience that shall be learned.

#### • Challenges and Constraints

The constraints are financial. On the local side, the budgetary cut does not allow INAB to perform its tasks in these years, neither MARN. Also, it is predicted that the international flows will be diminished or limited due to the effects of the financial crisis in the developed countries.

The mentality and attitude represents a restriction, but also a challenge. The belief that the sector is not profitable and needs some assistance continues. While PINFOR is a type of help, SFM's concept involves the economic profitability aligned with social and environmental responsibility.

It is important to recognize the country's constraints; such as the incomplete and inadequate infrastructure in some areas, as well as the highway system, which is vital to reduce transport costs that are high at the present. Another restriction has to do with the land possession and the lack of transparency. An additional one is the lack of an official land registry.

Finally, the financial challenge has to do with making the financial sector part of the forestry network and forums. There is a lack of communication between both sectors, from the language used to the perception of high risk

**• Opportunities and Success Stories:**

The sector has a grand potential because of the attractiveness of the country's forest vocation. It is recognized worldwide. The opportunities will come from the ability to get the results from the actions and programs, and to use this success to attract more funding to proven strategies. Much of the successful one comes from the joint effort between the INAB and the international aid. An example is the Forestry network already formed.

A new opportunity for the country comes from the carbon bonds issuance, a practice that has just begun in the country. The project led by Grupo Financiero de Occidente on the kidnapping of carbon for a rubber plantation, performed with local knowledge may be an incentive to use that platform for the rest of the sector.

Several companies have been in the market for years, as is the case of Interforest, which gives the example funding. More success stories are needed, particularly for the financial sector.

Linking the environmental and forestry sector to the topic of tourism would have an enormous potential; in fact, the country's image should have to do with the country's name "place of many trees".

## II.V) The implementation of the Non Legally Binding Instrument (NLBI) on all types of forests in Guatemala: Current Status and challenges

It is possible to evaluate the status of the implementation of NLBI. The following mechanisms and institutions currently support the forestry sector in Guatemala and are also more suitable to support the implementation of NLBI:

- National Institute of Forests (INAB), as director of forestry policy in the country.
- Food and Agricultural Organization (FAO) Facility Mechanism, as international mechanism. This collaboration began in the first period from 2004 to 2008 and had the purpose of the decentralization of the process of forest management, encouragement of dialogue with local communities, among additional series of activities and objectives related to SFM, environment, inclusion and reduction of poverty. The second work area since 2008 was the support to the National Forest Program (PFN).
- Growing Forest Partnership (GFP) that is supported by the World Bank and implemented by FAO. In 2009, as a result of local meetings, it was reached the vision to design and implement the action lines. The following strategic areas that appeared urgent to implement are common, yet more general:
  - Governance and participation
  - Financial mechanisms
  - Information and training
  - Strengthening of the forest administrations

The Growing Forest Partnership's (GFP's) philosophy was to support the existing initiatives and activities, that is the reason why in the financial area, the National Forest Financing Strategy (ENFF) was promoted with the creation of the Forestry Financial Intelligence Unit (UIFF).

To evaluate the current status and using the 25 measures recommended by NLBI, two groups emerged. The chart below divides the actions in that regard: the first with green check are those related to funding for investment, the latter with Red Cross need financial budgetary support. Each action is followed by a simple classification ranking the advances as None, Low, Medium or High.

NLBI Actions (Source: NLBI UNFF)

1	Develop and/or update national forest programmes and strategies taking into account UNFF proposals	✓	High	12	Integrate national forest programmes and strategies for SFM into national strategies for sustainable development	✗	Low
2	Consider the 7 thematic elements for SFM as criteria and indicators	✓	Med	14	Review , improve forest related legislation, strengthen forest law and promote good governance	✗	Low
4	Develop and implement policies that encourage SFM and contribute to poverty reduction and development of rural communities	✓	Low	15	Analyse the causes and address solutions to forest health and vitality from natural disasters and human activities	✗	Low
8	Create enabling environments to encourage private sector investment, as well as investment by and involvement of local indigenous communities,	✓	Low	16	Create, develop or expand and maintain networks of protected forest areas.	✗	Med
9	Develop financing strategies that outline S,M and Long term financial planning for SFM, taking into account domestic, private sector and foreign	✓	Med	17	Assess the conditions and management effectiveness of existing protected areas	✗	Low
10	Encourage recognition of the range of values derived from goods and services provided by all types of forests and trees outside forests	✓	Low	18	Strengthen the contribution of science and research in advancing SFM by incorporating scientific expertise into policies and programmes	✗	Low
11	Identify and implement measures to enhance cooperation and cross sectoral policy and programme coordination among sectors affecting and	✓	Low	19	Promote the development and application of scientific and technological innovations	✗	Low
13	Establish or strengthen partnerships, including public-private partnerships, and joint programmes with stakeholders	✓	Med	20	Promote and strengthen public understanding of the importance of the benefits provided by forests	✗	Low
25	Enhance access by households, small scale forest owners, local communities and indigenous communities into diversification of income consistent with SFM	✓	Low	21	Promote and encourage access to formal and informal education, extension and training programmes for SFM	✗	Med
3	Promote the use of management tools to assess the impact on environment	✗	Low	22	Support education, training and extension programmes involving local and indigenous communities, forest workers and forest owners.	✗	Med
5	Promote efficient production and processing of forest products	✗	Med	23	Promote active and effective participation by major groups, local communities, forest owners and other relevant stakeholders in the development, implementation and assessment of national policies, measures and programmes	✗	Med
6	Support the protection and use of traditional forest related knowledge and	✗	Med	24	Encourage the private sector, civil society organizations and owners to	✗	Low

In Guatemala there has been progress in several of these actions, though, there is not a concrete evaluation for them yet. Using the simple methodology or ranking proposed we can count 1 action with High advances, 9 with Medium, 15 with low and 0 with none. That shall be one of the recommendations, using the 25 general actions, establish a methodology for evaluation and monitor the results. The specific advances are:

- Forum on forests with negotiating roundtables represent an effort to enhance dialogue and opportunities. Mechanism that has been systematized by using a methodology that evaluates legal and financial requirements that have been developed for this purpose. Also these areas revolve around 6 thematic forums that are part of NLBI recommendations;
- Dissemination of models and knowledge of SFM, particularly the municipal and community experiences;
- The creation of PFN and ENFF has been a key factor and has been achieved in a positive way;
- UIFF has begun working with the issue of financial instruments of short, medium and long- term for the forestry sector;
- Regarding the subject of capacity building, UIFF is an instance that may serve as a verifier of 25 steps. The issue of training and education is a key factor. The programs to disseminate them through the forestry network, was integrated by INAB with the support of FAO and GFP recently. The impact assessment is not yet realized since the first training seminar just started in the second quarter of 2010.

As shown and analyzed more deeply in Rodas (2010), they have been advances; however, local and international budgetary support is definitely required. A need to institutionalize the measurements using NLBI indicators and more important to encourage each one of the actions are necessary.

## II.VI) A calculation of the financing needs in Guatemala for SFM

It is necessary to estimate the forestry financial requirements for the coming years. For this estimation, several benchmarks are assumed, first, the Millennium Development Goals (MDG) for each one of the following measures of the sector and SFM: Plantations and goals of forestry coverage (counteract deforestation is included), natural forests management, knowledge and science, industrial development and Payment of Environment Services (PES). This concrete indicators were the ones selected by Guatemalan experts for the chapter related to Sustainable development and environmental investments (See II Informe de Avances de Cumplimiento de Metas del Milenio, 2006). Furthermore, budgetary projections for the forest institutions are

included. The assumptions used to design the financial needs are determined by the studies of Gálvez (2009) and Gómez (2006).

The estimations and updates are specific to this work. The funding gap comes comparing the targeted indicator and the current level. A gap needs to be filled for the target to be met.

*Millions of Quetzales*

Year	Plantations Fiscal Incentives PINFOR	Plantations Fiscal Incentives PINPEP	Plantations Other	Natural Forest management	Knowledge & Scientific Promotion	Industrial Development	PES	INAB Budget	Annual Needs
2010	60	10	0	60	16	20	79	50	295
2011	60	15	10	62	19	22	79	55	322
2012	84	20	32	39	20	23	79	61	358
2013	84	25	96	53	21	27	79	67	452
2014	86	30	184	65	22	30	79	73	570
2015	87	35	183	79	24	33	79	81	600
2016	89	40	181	95	25	33	79	89	630
<b>TOTAL</b>	550	175	686	453	147	188	553	474	3,227

The estimated financial requirements are Q 3,227 millions equivalent to US\$403 millions at the exchange rate of Q.8.0 to US\$1.0. This calculation is not total, but incremental. Also, it represents the funding that is not considered under the actual projections.

### **III.) Experiences, lessons learned, challenges, restrictions, opportunities and stories of success in the financing of forestry projects in Guatemala**

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This chapter is divided in 2 parts. Each of them is separated in Experiences, Lesson Learned, Challenges and Restrictions and Opportunities and Success Stories.

#### **III.I) National and regional Forums of Forestry Funding, as well as the experience in the payment of ecological and environmental services.**

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Forestry forums have been implemented in Guatemala by several means as INAB, MAGA, the Central Government, the Forestry Cluster, and Agexport and also by the participation in regional and international events. In conclusion, there is an existing movement. New concrete projects begin recently in the area of payment for the ecological and environmental services.

##### **• Experiences and Lessons Learned:**

The forums that organize the local authorities in Guatemala call to consider the following related topics:

- Social Responsibility
- Protected Areas
- Environment
- Forestry
- Expomuebles and business roundtable

These generate a series of lessons learned. In fact, this sector has gained ground privately, but it is not enough. The forestry sector has yet to be a priority in the Guatemalan economic and political agenda.

The technical capacities within this sector have been improving. The existence of organizations such as Rainforest Alliance has incremented the sector's relevance and its human capital. However, the knowledge has not been spread in the lower layers of the forestry sector.

##### **• Challenges and Constraints**

The following are the constraints that have been identify and represent challenges to overcome in the coming years:



- There is no recognition of the economic value of trees;
- There is no forestry culture among the population. The benefits of having a forest country are unknown;
- There is not a right attitude towards the forestry sector by the people;
- There is the belief that this is an activity supported by donations and is not profitable;
- There is no presence of the financial systems in the forums. This situation does not allow communication channel improvements;
- There is no central coordination about SFM. As a result, there is no leadership in the diffusion of the concept;
- There is no presence of public and governmental leaders in the forums. This reveals that the sector is not a priority for the governments and politicians on duty.

Each one of the above mentioned constraints represents challenges. It can be concluded that the majority of them is the lack of communication, diffusion of policies and informative campaigns. There is a need of educational tools that show the benefits of the forestry sector to the entire society as well as to help to change the attitude towards this sector.

The topic of Payments for Environmental Services (PES) has just begun in Guatemala. One of the issues that are being considered is the certification of carbon sequestration in some projects of the protected areas such as the Lachua Lagoon, the Maya Biosphere Reserve, and other parks. The support of Rainforest Alliance has produced great advances in this issue.

• **Opportunities and Success Stories:**

PES is a great opportunity for the country, but it requires a strong investment in marketing and promotion. This opportunity will increase Guatemala's access to markets and to be able to negotiate better prices. Besides, the carbon sequestration is promising for several reasons: first, there are no many areas exploited in the country and second the carbon trading markets will increase in the coming years due to legal changes such as UNCC and other initiatives that are already underway.

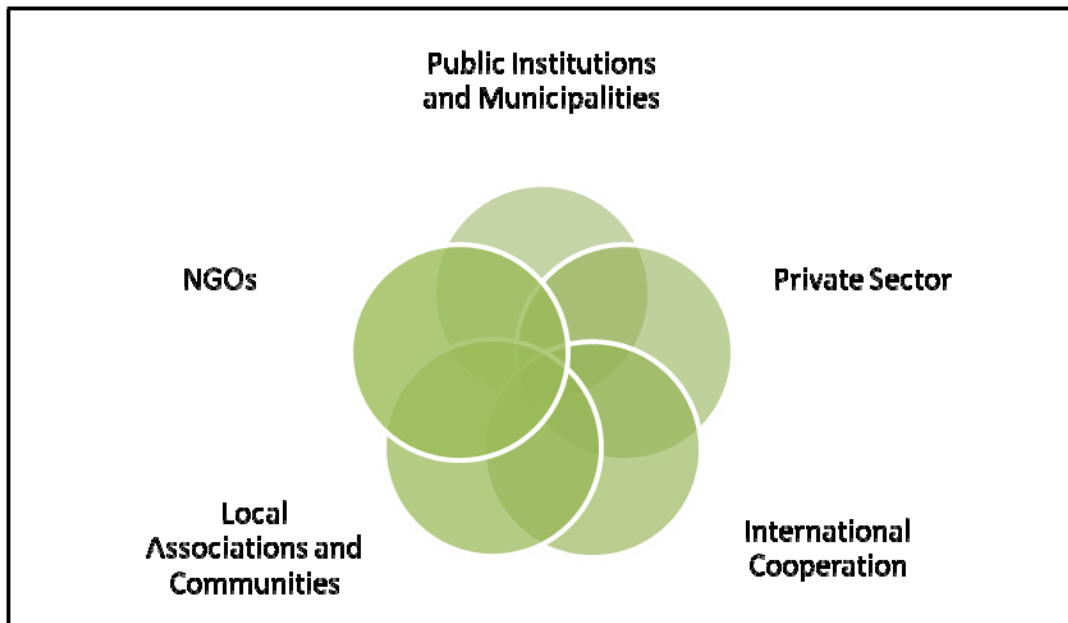
PES' success story has to do with:

- The issue of carbon bonds by *Grupo Agroindustrial de Occidente* led by the *Grupo Financiero de Occidente* on a rubber tree plantation of 2,500 hectares. This experience has been successful since local capacities were developed over two years in order to understand and start the business.
- Direct Forestry Support Program (PPFAD) is a fund that supports the implementation of PES in the rural area of Guatemala. The community and local forests are the beneficiaries. There has not been a relevant study or the need to increase the

program. This is an opportunity already implemented and shall obtain much more relevance in the coming years.

### III.II) Institutional structure for SFM and its financing

The structure that sustains SFM in Guatemala is the intersection of different institutions such as government institutions, municipalities, private sector, NGOs, local associations and communities and international donors.



The governance is responsible for managing the interaction among the different institutions and organizations and establishes the rules of game regarding access, management and control of the natural wooded resources, taking into account the socioeconomic and historical context of the affected areas (Rodas 2009). The governance is further responsible for dealing with local authorities. How it accomplishes these tasks helps to determine its credibility and effectiveness.

#### • Experiences and Lessons Learned:

The public and private alliance of the forestry sector has worked well during the last years. Consequently, it is possible to conclude that there is a positive outlook toward the forestry sector based on INAB, FAO's support, voluntary workers among other factors.

The most important lesson learned is ENFF's effort to change the forestry sector's attitude. Some people do not view this sector as economically feasible and they expect to succeed through monetary donations. This shows that SFM's concept is still not present in the collective consciousness of the country.

#### Challenges and Constraints:

Definitively, the most important challenge is changing the attitude towards the forestry sector since some of its members have different visions regarding SFM's principles. There is no conviction of what can be achieved and that the subsidy and not refundable support is needed permanently.

Another big constraint is the low level of human capital that can be seen in low levels of education or economic literacy, entrepreneurship and technical forestry techniques.

• **Opportunities and Success Stories:**

The success stories in the governance of the forestry sector are diverse. The Forest Cluster or forums where the private and public sectors meet is positive as well as the Alliance between the forest communities and the consensus roundtables those are successful examples of the establishment of a forestry network.

INAB has remained intact and free of corruption and embezzlement issues that other public institutions have been accused.

A great opportunity for the governance is UIFF, unit that can be incorporated to the financial sector, the forum and the network. Also, it can do a better job in linking the efforts with MARN and environmental issues, and REDD and natural risks management. The tropical storm Agatha, which hit the country recently, showed how the deforestation and degradation of the land caused rural vulnerability through landslides and sink holes among other effects.

## **IV) Recommendations: Areas, Issues and actions that Guatemala considers crucial for forest financing strategies**

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### **IV.1) Improving Access to Forest funding**

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The lack of communication between forestry and financial sector is a key factor and any effort to gather these two worlds together is positive. This is the reason why UIFF is the right entity to deliver this objective. Below a list of concrete recommendations:

- i. Identification and contact of external funds such as :
  1. Multilateral organizations as BCIE (CABEI), World Bank, IADB, among others;
  2. International development banks;
  3. Forestry and Environmental Private funds.
  
- ii. Identification and contact of local funds such as:
  1. Traditional institutions as Banks;
  2. Nontraditional institutions as Microfinance Institutions, Leasing, Factoring, and Exchange traded securities and underwriters.
  
- iii. Economic and Entrepreneurship Education to the Forestry Players:
  1. Develop financial models for any tree species as teaching and investment material;
  2. Develop an Information Center that contains technical, risk, financial, and key information such as weather conditions, land characteristics of each species of trees for any type of habitat in Guatemala. Check Profuta of MAGA;
  3. Design and implement courses and seminars on issues such as entrepreneurship, financial planning, budgeting, Project development, and writing a business plan among others.
  
- iv. Newsletter for the forestry and financial sector. Communicating macroeconomic conditions, financial key variables, success cases and any other information that can be useful to both sectors.
  
- v. Designing and implementing Credit and Financing Pilot programs. Consider the three phases in the production chain and its financial needs.

1. Pilot program to the micro and small scale forestry sector. Special skills are needed to serve this segment such as the microfinance institutions that already provide business support;
  2. Pilot program in nontraditional institutions such as leasing, factoring;
  3. For the major projects is recommended to be a partner and information resource of new financial structures such as syndicated loans, carbon emission and trading, etc.
- vi. Long term financing is key to resolve and promote new mechanisms such as the following:
1. Eco Securitization: This is a diversified instrument with risk mitigation techniques. This type of transaction has to have SFM guidelines and try to underwrite papers with collaterals like:
    - a. Cash flow from plantations
    - b. Government flows such as PINFOR and PINPEP
    - c. Loan Portfolio for SME
    - d. Forest conservation
  2. Private forest funds: they come in different forms and further research is needed to adapt them to Guatemalan conditions. Some examples:
    - a. Timber Investment Management Organizations, typical American fund, they provide two thirds of the financing flows to the forest sector. They own near 50mm ha. (Bingley 2007). They suffer of a lack of SFM's concepts and applications in their plantations but this is changing right now;
    - b. Forest Investments Trust in Chile. Privately owned investment fund that buy lands and forests. They use this as collateral to issue long term bonds with these funds as collateral. The forestry management is outsourced and this type of fund is regulated.
  3. Risk Mitigation Techniques:
    - a. Insurance
    - b. Diversification
    - c. Property Insurance
    - d. Political Risk mitigation

#### IV.II) Some trends that should be considered to act on behalf.

1. Increasing importance and use of certifications of forest products and origins.
  - a. Inform and release key aspects to the forestry players and actors;
  - b. Promote private and public alliances for the use of voluntary certifications and standards;
  - c. Education and training
2. Increasing use of carbon emission bonds and trading.
  - a. Communicate and inform Success stories
  - b. Promote the use of this tool in Guatemala

3. Increasing importance of SFM's concept
  - c. More meetings and discussion forums to communicate the concept;
  - d. Lobby to put the sector as strategic for the country.

#### IV.III) Mobilization of resources

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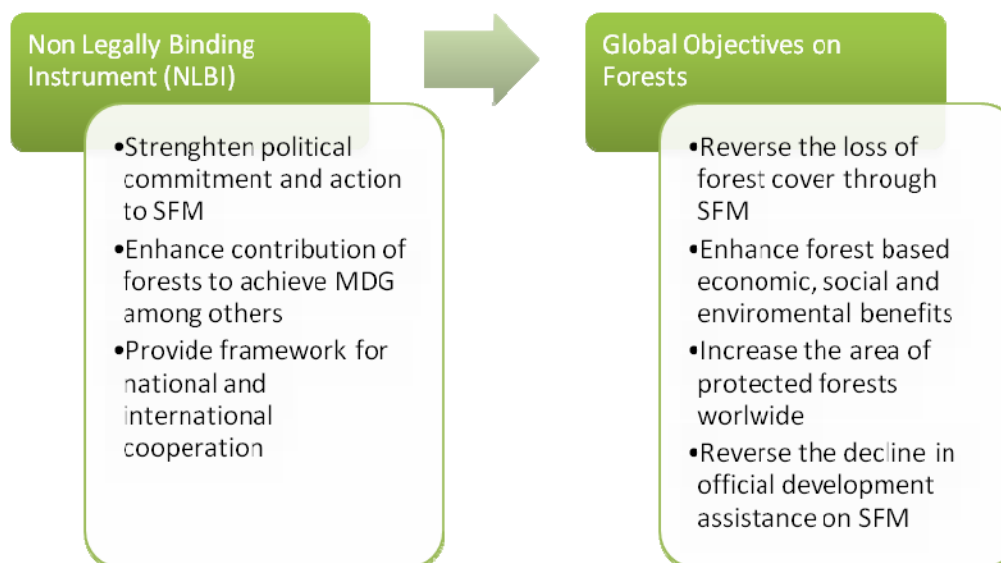
Recommendations regarding this topic are:

1. Work to promote a new PINFOR and the creation of PINPEP as a national policy initiative with the commitment of funds;
2. Put to work INAB's Guarantee Fund. Elaborate the study and strategy to start using these funds;
3. Create an inventory of the funds of the International donors;
4. Acknowledge the objectives of the key international organizations and adapt them into the environmental and forestry needs in Guatemala. This work requires the conviction that this issues are key in the sustainability of the country, including REDD guidelines;
5. Press for changes in the discussion of national budget, especially to increase the forestry allocation. This is a lobby initiative that needs to consider allies to this movement;
6. The efficiency of resources should be evaluated or assess using the 25 actions that NLBI recommended. The proposal is that UIFF consider these actions as objectives to monitor them with clear indicators;
7. Propose green taxes;
8. Encourage private and public alliances;
9. Promote fiscal incentives;
10. Create funds and special mechanism or strengthen the existing of PES.

#### IV.IV) Improve coordination and environment for the forestry sector

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1. NLBI on all types of forests should be the primary tool and its importance should be elevated as a guideline for the sector. Starting by using the 4 global objectives and its 25 actions.
2. Elaborate a document that cross reference among PFN, EFNN and NLBI to unite goals, objectives and measures. This will allow generating common visions, efforts and actions.
3. The following recommendations are based on the three aspects that NLBI recognize to be the key drivers to improve the environment for forest funding:



- Increase political commitment through communication and lobby;
- Use Millennium Development Goals' (MDG's) indicators in the forestry sector. This will assure that SFM has been incorporated in public policy actions. Guatemala has picked concrete indicators to achieve the chapter with sustainable development;
- Create a framework and inventory of efforts to recognize duplicity of roles to increase efficiency. Use NLBI's actions to recognize efforts and actions as well as needs and gaps. This will show which institutions are doing what action or activity;
- Increase the flows of information, intelligence and research from the forestry sector to the financial sector and vice versa. Use newsletter, events, seminars, conferences among others;
- Incorporate the financial sector key players in every forestry sector event;
- The need to recognize the value of the trees as a good and service is fundamental. Work with SIB to achieve new normative for the credits and loans using forest as collateral;
- Create and design pilot programs and financial instruments;
- Increase the effort to communicate the changes and impacts coming from the international discussions in climate change, REDD, carbon emission, etc.

#### IV.V) External support needs

##### International Cooperation

Cooperante	International Cooperation Funding to the Environment and Water Sector				
	Total Cooperation (en USD)	Government Organization Managed (en USD)	MINFIN Managed	% Gov and MINFIN Managed	
1. Germany (GTZ, KfW)	80,257,500.00	0	25,650,000.00	32%	
2. Denmark (DANIDA)	11,600,290.49	0	7,282,077.45	63%	
3. Spain (AECID)	122,859,988.00	0	10,275,000.00	8%	
4. United States(AID)	13,626,458.00	0	0	0%	

5. Japan (JICA)	23,207,552.65	0	0	0%
6. Netherlands	49,946,661.00	6,317,589.97	7,859,797.76	28%
7. European Union	21,436,357.05	8,572,500.00	0	40%
8. UNICEF	2,400,000.00	2,400,000.00	0	100%
9. FAO	6,850,685.50	0	0	0%
10. PNUD	19,865,046.45	4,059,500.00	0	20%
11. BID	310,471,597.93	0	310,471,597.93	100%
12. BM	Pendent mapped	idem	-	-
13. México	Pendent	idem	-	-
<b>TOTAL</b>	<b>662,522,137.07</b>	<b>21,349,589.97</b>	<b>361,538,473.14</b>	<b>58%</b>
<b>TOTAL</b>	<b>352,050,539.14</b>	<b>21,349,589.97</b>	<b>51,066,875.21</b>	<b>21%</b>

The table above summarizes the funding into the environment and water sector in Guatemala. Some of them are available and execute in SFM's concept. Additional recommendations are:

1. Promote PFN, NLBI, REDD, UNCC, GFP and any key initiative. Communications Campaign is needed;
2. Create common standards, measures and goals between international guidelines and local institutions (public, private, community, NGO's, etc);
3. Support for capacity building favoring areas where the institutions are weak:
  - a. Knowledge, Science and technology;
  - b. Lobby ;
  - c. Improve spaces of dialogue;
  - d. Inform about mechanisms like REDD, UNCC, SFM ;
  - e. Support Research and development;
  - f. Improve the level of knowledge in this sector such as business, external markets, technology, efficiency, methods and new opportunities;
  - g. Characterization of the forestry sector in Guatemala. Know the supply chain, their financial and technical needs;
  - h. Creation and design of educational materials;
  - i. Creation of the Business Plan blueprints, financial models guidelines, species profiles, risk factors and critical issues among relevant information to the potential investor.



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