

Rainforest Alliance Technical Assistance: *Strengthening FORESCOM and the community forest enterprises of the Maya Biosphere Reserve, Guatemala*

Guatemala, July 2010

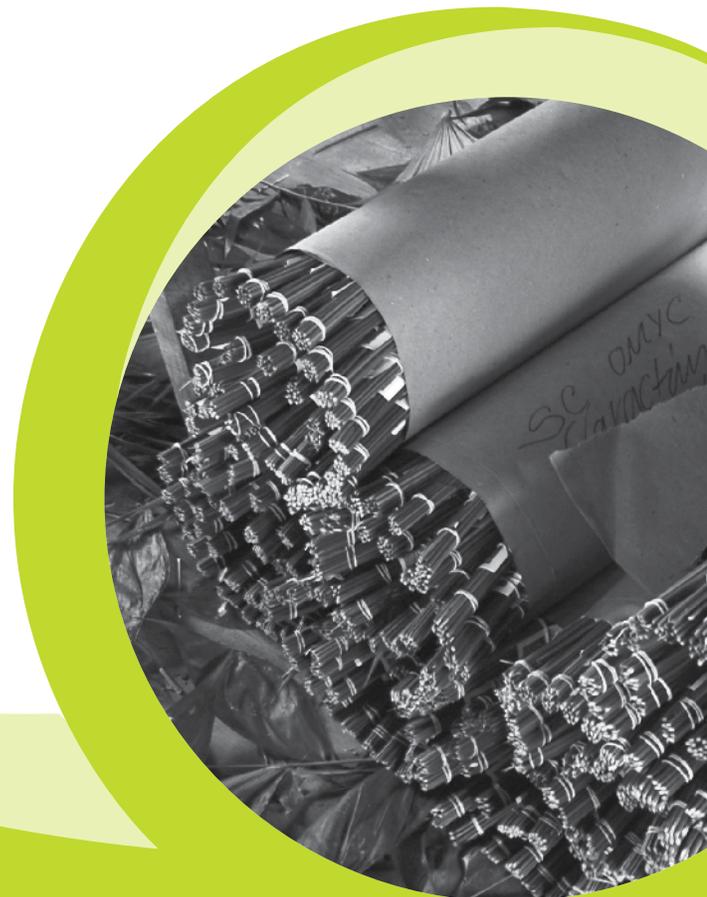


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Acronyms

ACOFOP	Association of Forest Communities of Petén
AGEXPORT	Association of Guatemalan Exporters
BID	Inter-American Development Bank
BIOFOR	Biodiversity and Forestry Initiative
CIPREDA	Agricultural Development Preinvestment and Investigation Center
CONAP	National Counsel for Protected Areas
EFC	Community Forest Enterprises
EIA	Environmental Impact Evaluation
FOMIN	Multi-Lateral Investment Fund
FORESCOM	Servicios del Bosque, S.A., a Community Enterprise
FSC	Forest Stewardship Council
INCAE	Central American Institute for Business Administration
INTECAP	Technical Institute for Training and Productivity
MAGA	Ministry of Agriculture, Livestock and Nutrition
MARN	Ministry of Natural Resources and Environment
MBR	Maya Biosphere Reserve
NGO's	Non-Governmental Organizations
NTFP	Non-Timber Forest Product
OEC	Business Liaison Office
PRONACON	National Competitiveness Program
TREES	Training, Extension, Enterprises and Sourcing
USAID	United States Agency for International Development
WCS	Wildlife Conservation Society
ZAM	Buffer Zone
ZN	Core Zone
ZUM	Multiple Use Zone

Summary

Sustainable management of the world's natural resources is shifting from an option to a vital necessity. Increasing evidence attests to the fact that sustainable resource management practices can promote economic development and livelihood improvement for communities. This case study adds to this growing body of evidence by profiling the work of Rainforest Alliance assisting local forestry enterprise in Guatemala's Petén region. The sustainable, productive management of thousands of acres of forest in the Petén are an example of how good management practices can provide opportunities for employment, business, and sustainable social development.

Before the Maya Biosphere Reserve (MBR) was established in the Petén in 1990, the area was plagued by illegal logging, which focused on removing only the most valuable tree species, such as mahogany. At the same time, civil conflict and displacement resulted in significant in-migration to the region, sparking extensive conversion of forests for agricultural use.

The MBR was designed to include a Core Zone of protected areas (national parks and "biotopes") a Multiple Use Zone, where forest extraction was legalized through forestry concessions, and a Buffer Zone for other land uses meant to relieve pressure on forest areas. At the time of the MBR's establishment, forest communities in the Petén, with the help of an array of NGOs and donors,

banded together to promote their rights and ensure that they would be granted forest concessions. These communities were united under the Association of Petén Forest Communities (ACOFOP). In 2003, the Community Forestry Services Enterprise (FORESCOM) was launched, formed by a group of eleven community forest concession organizations.

Since 2005, the Rainforest Alliance TREES program has assisted FORESCOM by providing technical assistance on production lines, sawmilling techniques, inventory and cost control, and general business strategy. TREES has also acted as a liaison with prospective buyers seeking certified products. Working together with a range of partners, Rainforest Alliance has leveraged funds and other assets to support additional investments, designing and implementing policies and practices for effective and integrated administration of natural resources. Assistance has also helped with business planning for timber and non-timber forest products (NTFP) marketing, as well as overall promotion of value-added processing, assisting FORESCOM in internal consensus-building and general policies for improvement.

This case study documents how these efforts have facilitated: (a) the leveraging of increased investment, (b) development of instruments for NTFP management, (c) enhancement of institutions, business practices and employment, (d) design of production cost controls for lesser-known species,

and (e) market development for lesser-known species and NTFPs.

As described below, FORESCOM has achieved noteworthy results in adding value to lesser-known timber species such as manchiche (*Lonchocarpus castilloi*), pucté (*Bucida buceras*) and santa maría (*Collipyllum brasiliense*). By 2008, FORESCOM had tripled sales prices for these species, having transformed them into products such as decking, flooring, and guitar parts, in contrast to their earlier sales in 2003 as coarsely-sawn lumber. Additionally, new market niches have been opened for these species and for the lower grades of mahogany and cedar. In 2003, income from sawn wood was \$2.8 million; by the end of 2008 this figure had more than doubled to \$5.8 million, despite a mere 5% annual increase in product volumes.

Assisted by the Rainforest Alliance, FORESCOM also began exporting xate (*Chamaedorea spp*) to the United States and Europe at competitive prices, cutting out middlemen who underpaid for resource extraction and provided no incentive for the application of sustainable management practices. With new market linkages brokered by FORESCOM, product sales tripled within three years, from \$58,791 in 2005 to \$181,358 in 2008, helped along substantially by Forest Stewardship Council (FSC) certification of xate production.

From a socioeconomic perspective –from tree felling to processing through to

product development and marketing–FORESCOM and its member enterprises have generated over 400 permanent jobs annually, directly benefiting over 10,500 persons and indirectly over 70,000. This has given concession holders and their families an improved quality of life, greater household stability (most salaries are above the minimum wage established by Guatemalan law), access to education and healthcare and significant improvements generally for community development.

Ecologically, forest cover within MBR's Multiple Use Zone has remained nearly intact, in contrast to the protected areas of the MBR, where the reduction of forest cover has been dramatic. Several recent land-use change analyses have revealed a significant reduction in deforestation in the Multiple Use Zone since 1997, which can in part be attributed to the community concessions' annual expenditures of about \$200,000 in monitoring and surveillance, investments made possible by profits from forestry operations.

Despite these successes, FORESCOM faces continuing challenges in economic and social stabilization, development of products from additional secondary species, development of new markets, and in maintaining its FSC-certified status. It is our hope that by describing the successes and challenges seen in the Petén we will enhance the ability of technical assistance efforts to improve the profitability and sustainability of small and medium-sized enterprises in other regions.

Background

Since early in the 20th Century, northern Guatemala's Petén region has relied on the production of several forest products, principally chicle (*Manilkara zapota*) mahogany, (*Swietenia macrophylla*) and cedar (*Cedrela odorata*); by 1940, chicle had become the third largest export product of the country. In 1957, the Guatemalan government created the Petén Enterprise for Economic Promotion and Development (FYDEP) with the aim of integrating the region into the country's economy and promoting colonization. In the 1980s, migration to the Petén intensified, bringing about major conversion of forest land to farmland and cattle ranches. To stem the tide of conversion, the FYDEP declared those lands lying north of the 17° 10' parallel as a reserve area for forest concessions –principally for mahogany and cedar– for the use of “local industries.” FYDEP was phased out during the 80s, and in 1990 the Guatemalan Congress decreed the Maya Biosphere Reserve (MBR), an area of nearly five million acres, consisting principally of government-owned woodland and divided into three general areas: Buffer Zone (ZAM), Core Zone (ZN), and Multiple Use Zone (ZUM).

The Maya Biosphere Reserve

The National Council of Protected Areas (CONAP) was created by the 1989 Guatemalan congressional law, which established this new entity to direct and coordinate the Guatemala System of

Protected Areas (SIGAP), including the MBR. The purpose of the MBR was to conserve one of the most extensive and outstanding cultural and environmental areas in Guatemala. Both national and foreign NGO-supported environmental conservation efforts have invested heavily in the core and Multiple Use Zones; the United States Agency for International Development (USAID) has been a key donor since the MBR's inception.

Accustomed to farming and unrestricted lumbering, local communities in the MBR initially resented the new restrictions imposed by CONAP, which refused to renew expired licenses. After an extensive period of negotiation, the MBR Master Plan was approved in 1990, establishing a Core Zone of protected areas (national parks and “biotopes”), and allowing controlled forest extraction within the Multiple Use Zone (ZUM), legalized as forestry concessions.

Creation of Zones within the MBR

CONAP's Master Plan, approved in 2001, gazettes three zones for the MBR:

- a. Core Zone (National Parks and Protected Biotopes; 1,894,490 acres; 36% of the MBR).
- b. Multiple Use Zone (2,095,647 acres; 40% of the MBR).
- c. Buffer Zone (1,228,825 acres; 24% of the MBR).

Figure 1.
Zones within the Maya Biosphere Reserve



Source: ACOFOP, 2005.

Core Zone

Over a third of the Maya Biosphere Reserve is its Core Zone (ZN), consisting of woodland and protected archaeological sites, where natural biological processes are to be left largely untouched and no permanent human settlements, farming, or cattle ranches are permitted. It is a place of exceptional scientific interest for wildlife and ecological research. However, due to a lack of active management and sufficient funds for protection, these areas have suffered from extensive deforestation and degradation over the last decade.

Multiple Use Zone

The Multiple Use Zone (ZUM), which covers 40% of the MBR, is made up primarily of forest concession management units, assigned to organized communities and private companies for sustainable use, based on resource potential and in accordance with the overall conservation objectives of the

reserve. The concessions are discussed below in greater detail.

In addition to the forest concessions, to ensure connectivity with the Core Zones, CONAP gazetted three biological corridors. One connects the *Laguna Del Tigre* and the *Mirador* National Parks, and another unites the *Tikal* and *Río Azul* National Parks. Both of these corridors have dense woodland, springs, and abundant and varied wildlife. The third corridor connects the Sierra de Lacandón and *Laguna del Tigre* National Parks; however, the ecosystems of this corridor have deteriorated notably, requiring the application of specific strategies aimed at restoring them to pre-settlement conditions.

Buffer Zone

The purpose ascribed to the buffer zone (ZAM) under Decree 5-90 is to relieve pressure on the forest of the MBR. The approach used is to stabilize

land and natural resource use through environmental education and orientation of neighboring communities. The buffer zone has significant importance for mitigating external impacts on the MBR.

The MBR is recognized by UNESCO as a *Biosphere Reserve*. The importance of its marshes is recognized worldwide and mentioned in RAMSAR's international convention as a World Heritage Site. As recognized under the Central American Biodiversity Treaty, *Tikal National Park* (located within the MBR) is a refuge for over 3,000 vascular plant species, 327 reptile and amphibian species and 220 freshwater fish species.

Forest Concessions

A forest concession is an administrative mechanism whereby the government, through CONAP, grants state lands to legally-established organizations for a 25-year renewable period, giving them the right to integrated resource use, involving such activities as forestry and ecotourism.

Specific requirements for being granted a concession include: (a) being a legally-established group, organization, or enterprise; (b) presenting a CONAP-approved general management plan; (c) presenting an environmental impact evaluation; (d) presenting annual operations plans; and (e) achieving forest certification within three years of the granting of the concession.

Once a concession is established, there are further requirements for maintaining the license, including: (a) passing annual

certification audits; (b) fulfilling the annual CONAP evaluation; (c) undergoing environmental regulation evaluations 216, and of the US Forest Service if USAID funds are received; (d) implementing mitigation measures identified in the Environmental Impact Evaluation (EIA); and (e) permanent monitoring of impacts on ecological integrity, including archaeological sites.

CONAP's 2005 Strategy for the Multiple Use Zone is to *"share and delegate administration by designating Management Units to afford long-term exploitation rights to concession holders, with benefits and responsibilities defined by contract."* The objective is to promote an alliance between the MBR's resident communities and CONAP, an alliance whereby communities will collaborate in the conservation of protected areas, with CONAP ensuring that locals have exclusive use of the resources in their concession, provided they operate under the principles of sustainable management.

Concession holders' responsibilities include surveillance of their concession units to deny entry to 'lumber pirates' and prevent illegal logging, prevention and control of forest fires, and protection of archaeological sites, among others. Reasonable and sustainable use of NTFPs is promoted. Also allowed are controlled farming, tourism activities and other activities conducive to community development and compatible with the MBR's objectives.

Two basic types of management concessions are considered for the Multiple Use Zone: community and

industrial. The locations of concessions within the MBR are shown in *Figure 2*.

Community management units

These land units are granted to legally established, organized community groups, permitting their management and use of timber and non-timber forest products, principally *xate* (*Chamaedorea spp*), *chicle* (*M. zapota*), Allspice (*Pimenta dioica*), bromeliads (*pita floja*) (*Aechmea magdalenae*) and climbing palm (*bayal*) (*Desmoncus spp*). For settled communities living within the management unit, farming and ecotourism activities are permitted, as long as these conform to established land use ordinances and coincide with MBR's objectives. While at first these communities received NGO technical assistance to ensure conformity with resource management policies, each concession now currently pays for these services.

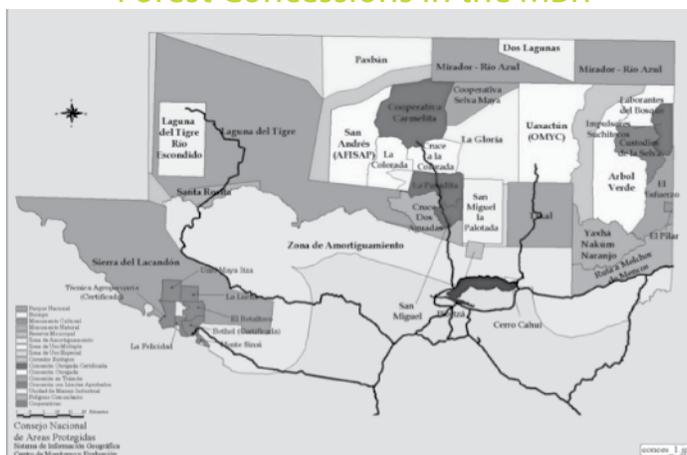
The first CONAP MBR/ZUM community forest concession was awarded to San

Miguel La Pelotada in 1994, primarily on the basis of resource protection but not necessarily resource use. Between 1998 and 2002, eleven forest communities, eight cooperatives and two industrial concessions were established. Concerted efforts were made by all concessionaires during this period to consult with stakeholders and familiarize them with forest management planning, as part of their efforts to qualify for forest certification within the first three years of their concessions.

Industrial Management Units

The industrial concessions are granted to regional private enterprises with installed capacity for wood processing, but they differ from community concessions in that only resource exploitation for timber is permitted; CONAP retains the authority to provide permits to third parties for NTFP removal. Further, rather than NGO assessment, industrial concessionaires must employ a regent to guarantee adequate performance.

Figure 2.
Forest Concessions in the MBR



Source: Chemonics BIOFOR, (2006).

Certification of Forest Concessions

Both types of concession require a valid Forest Stewardship Council (FSC) certificate for the full term of the concession, or twenty-five years.

Table 1 illustrates the certification status of community concessions between 1999

and 2008. This table shows that, of the twelve community forest concessions, eight have retained their FSC certification, three are suspended and one is on probation. The suspensions and probation were enacted due to a failure to comply with territorial surveillance requirements.

Table 1
MBR concession certification status in 2008

No.	Type of law	Community Forest Company	Management area (ha)	Certified area (ha)	Year award	Certificate Code	Certification Status
1	Community Private Properties	Cooperativa Bethel	4,227	4,149	1999	SW-FM/ COC-076	Suspended
2		Cooperativa la Tecnica Agropecuaria	4,607	4,607	1999	SW-FM/ COC-073	Suspended
3		Cooperativa Union Maya Itza	5,924	5,924	2001	SW-FM/ COC-164	Certified
4	Community Concessions	Asociacion de Productores Agroforestales de San Miguel	7,039	7,039	1994	SW-FM/ COC-075	Suspended
5	Community Concessions	Asociacion de Productores Agroforestales de La Pasadita	18,217	18,217	1999	SW-FM/ COC-074	Suspended
6		Sociedad Civil Impulsores Suchitecos	12,218	12,217	1998	SW-FM/ COC-063	Certified
7		Cooperativa Carmelita R.L.	53,797	52,904	1999	SW-FM/ COC-100	Certified
8		Asociacion Forestal Integral San Andres, Petén (AFISAP)	51,940	51,940	2001	SW-FM/ COC-160	Certified

9	Community Concessions	Sociedad Civil Organización, Manejo y Conservación (OMYC)	83,558	81,178	2001	SW-FM/ COC-161	Certified
10		Sociedad Civil Árbol Verde	64,974	64,974	2002	SW-FM/ COC-219	Certified
11		Sociedad Civil Laborantes del Bosque	19,386	19,390	2003	SW-FM/ COC-252	Certified
12		Sociedad Civil El Esfuerzo	25,328	25,328	2004	SW-FM/ COC-1192	Certified
13		Sociedad Civil Custodios de la Selva	21,176	21,176	2004	SW-FM/ COC-1303	Certified
14		Asociación La Colorada	22,067	19,282	2005	SW-FM/ COC-1469	Suspended
15		Asociación Cruce a La Colorada	20,469	18,837	2005	SW-FM/ COC-1469	Pre conditioned
16		Forest Concessions	Gibor S.A. (Paxbán)	65,755	66,458	2001	SW-FM/ COC-158
17	BAREN Comercial Compañía Ltda. (La Gloria)		66,460	64,869	2003	SW-FM/ COC-254	Certified
TOTAL AREA UNDER MANAGEMENT			547,142				
TOTAL CERTIFIED				466,358			
COMMUNITY TOTAL CERTIFIED				335,031			
TOTAL SUSPENDED				53,294			
TOTAL PRECONDITIONED				18,837			

Source: CONAP (2008), SMARTWOOD (2009).

ACOFOP

The MBR's designation as a reserve initially brought about a number of social conflicts. Faced with this problem, a number of Petén communities formed the Association of Petén Forest Communities (ACOFOP), to seek solutions to conflicts through the negotiation of rights and responsibilities for community concession holders and the state, using legal mechanisms.

ACOFOP is a second-tier entity comprised of twenty-three local organizations representing thirty rural communities and over two thousand families which, after several attempts, obtained official legal status in June 1997. With ACOFOP support, these communities have assumed responsibility for sustainable management of natural resources in the MBR through direct participation and the sharing of benefits, rights, and responsibilities. Subsequently, ACOFOP consolidated, bringing in more leaders and community organizations sharing similar views and objectives, and forming the Petén community group that, through CONAP, NGOs and the industrial sector, obtained the grant for the forest concessions within the MBR Multiple Use Zone.

ACOFOP's objectives include:

- a. Promote socioeconomic development and an improved quality of life for its members through forest conservation based on sustainable and participatory management of renewable natural resources;
- b. Lobby the appropriate authorities to define community forest management strategies for integrated development;
- c. Promote and provide technical assistance in program and project development;
- d. Defend the rights and interests of member communities in accordance with the objectives of the association, applying conflict resolution mechanisms where appropriate.

ACOFOP's role can be summarized as assisting, connecting, representing, negotiating and petitioning government authorities in support of member community rights, while promoting their autonomy within the MBR. ACOFOP funds its operations through technical and financial support from international organizations, since it has no income of its own.

As a result of its lobbying and assistance, the following achievements can be highlighted:

- a. Community organizations sustainably manage nearly 865,000 acres of natural forest within MBR's Multiple Use Zone;
- b. Certified by the Forest Stewardship Council (FSC), the communities have invested technology, labor and capital in permanent monitoring and surveillance to guarantee protection and conservation of these areas;
- c. A conscientious leadership has evolved in natural resource protection, and women have assumed significant



responsibilities and authority within these organizations;

- d. Income generated from forest management is reinvested in school infrastructure, scholarships, teachers' pay, basic healthcare and social services.

ACOFOP has received outside recognition for its efforts. The Guatemalan government awarded the Presidential Environmental Medal to ACOFOP in 2003 for its multiple achievements related to conservation within the Multiple Use Zone of the MBR. Other sources of recognition are the United Nations Development Program (2002 Equatorial Initiative for the Conservation of Biodiversity and Reduction of Poverty), held in Johannesburg, South Africa within the framework of the World Summit on Sustainable Development, and the "Environmental Torch" award given by the International Union for the Conservation of Nature (IUCN) for Latin American leadership in environmental matters.

International Cooperation

Technical assistance

From the outset, MBR concession holders have benefited from both international and local support. Local efforts were initially directed towards lobbying government authorities to grant

community organizations concessions, rather than limiting them to local private industry. As a result of these efforts, communities became eligible for concessions once they had organized and built baseline technical and administrative capacities. Thus, in 1994, with the aid of CONAP, USAID and national and international NGOs, the concession-granting process began.

One of the concession contract clauses required technical assistance for each community organization, covering topics such as integrated resource and organization management, women's rights at work, and administrative and accounting aspects. During 1994-2000, with support from USAID, the CATIE/CONAP project developed a series of technical documents on forest management, complemented by training from local and international experts. Subsequently, during 2001-04, the BIOFOR project (led by *Chemonics*), carried forward assistance to communities, attempting a balance between development and conservation.

In 2003, FORESCOM was established to provide the technical assistance initially extended by NGOs. In 2004, the communities began paying their royalty services and forest management assistance fees, which were previously subsidized by foreign aid.

Table 2 includes a summary of international aid extended between the time the MBR was established and 2008.

Table 2
International support to the MBR (1994-2008)

Organization	Concession (s)	Year	Type of technical assistance
CATIE/OLAFO and Centro Maya (USAID)	San Miguel La Palotada	1994-1998	Planning and implementation of integrated management, environmental impact studies, management and community organization manuals, environmental education, eco-tourism, socioeconomic & financial studies.
Pro-Petén/CI (USAID)	Carmelita	1995-2002	
Naturaleza para la Vida	Impulsores Suchitecos	1996-2000	
	Laborantes del Bosque		
	El Esfuerzo		
	Custodios de la Selva		
OMYC			
NPV y ACODES	Árbol Verde	1998-2000	
Centro Maya (USAID)	La Colorada		
	Cruce a la Colorada		
Rainforest Alliance <i>SmartWood</i> (USAID)	Todas las Concesiones	1999-2008	Training for FSC certification and FSC audit.
BIOFOR- Chemonics International (USAID)	FORESCOM y socios	2001-2005	Business criteria implementation for development/conservation goals, FORESCOM established.
Rainforest Alliance Programa TREES (USAID)	Community forest concessions & FORESCOM	2005-2008	Contacts with certified markets, training, new product development, xate management, certified marketing contacts.
ICCO - Holanda	FORESCOM y socios	2006-2007	Financial assistance towards institutional fortification.
OIMT	FORESCOM y socios	2007-2008	Technical assistance in marketing.
FOMIN / INCAE	FORESCOM y socios	2006-2008	Financial assistance towards institutional fortification.
HELVETAS	FORESCOM y concesiones	2008	Technical assistance in training and organizational development.

Source: Source: Own archives, (2010).

FORESCOM

Striving towards sustainability in their forest concessions, organized communities were concerned about the sharp reduction in funds from USAID and other donors. To offset this, supported by ACOFOP and the BIOFOR Project, FORESCOM was created from nine component organizations in August 2003, and began its operations in January of 2004.

FORESCOM Constitution and Organization

ACOFOP opened the Marketing Liaison Office (OEC) in 2001 to support its member organizations commercially, as several of them faced marketing problems, such as inadequate contracts, non-competitive prices, and delinquent

payments. These communities applied to the OEC for assistance in 2002. Development of business foresight and competitiveness thus became essential to concession maintenance. A new organization was formed from nine community organizations in July of 2003, aided and guided by the BIOFOR Project, with the goal of providing technical assistance, orientation and support to its members. This organization was called *La Empresa Comunitaria de Servicios del Bosque, S. A.*, commercially known as FORESCOM, and was registered as a corporation on the 12th of August of 2003 in the City of San Benito, Petén, in the Mercantile Register of the Republic of Guatemala.

The nine founding organizations were joined in late 2004 by two new members. Current members are listed in **Table 3**.



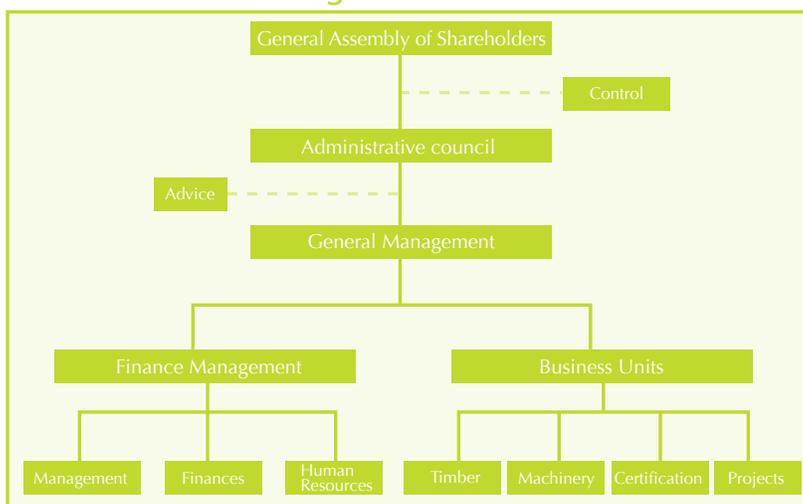
Table 3
FORESCOM's shareholder members

Name of FORESCOM shareholder member organization	Abbreviation
Asociación Forestal Integral Cruce a la Colorada.	AFICC
Asociación Forestal Integral La Colorada.	AFIC
Asociación Forestal Integral San Andrés Petén.	AFISAP
Cooperativa Carmelita R. L.	CARMELITA
Asociación de Productores Agroforestales de San Miguel.	APROSAM
Sociedad Civil Laborantes del Bosque.	LABORANTES
Sociedad Civil Organización, Manejo y Conservación / Uaxactún.	OMYC
Sociedad Civil Árbol Verde.	ARBOL VERDE
Sociedad Civil Custodios de la Selva.	CUSTOSEL
Cooperativa Unión Maya Itzá R.L.	UMI
Cooperativa Técnica Agropecuaria R.L.	TECNICA

Source: Forescom Business Plan, (2007)

FORESCOM's organizational structure includes a General Assembly of Shareholders, Administrative Council, Investigation Committee and General Management, which is responsible for all divisions and levels. These roles and others are shown in *Figure 3*.

Figure 3
FORESCOM Organization Chart for 2008



Source: Forescom Business Plan, (2007)

FORESCOM's short, medium, and long-term objectives

The objectives of FORESCOM are far more numerous and varied than those of the community forest enterprises; they encompass a range of business, industrial and commercial operations. Specifically, they are aimed at advisory and representation activities in forestry, commerce, tourism, real estate and services. Generally, they may undertake, execute, contract and hold meetings on any business matter considered subsidiary, complementary or relevant to said areas permitted by Guatemalan law.

The objectives are classified as short, medium, and long-term, including:

Short Term

- a. Acquire working capital for member organizations' operations: felling, transport, sawmilling and subsequent industrialization of forest resources.
- b. Provide kiln drying services for added value to commercial lumber for national and international markets.
- c. Promote more widely the sales of processed products: marketing these value-added items recovers working capital displaced as in-process inventory.
- d. Intensify promotional efforts towards lesser-known species of tropical woods, through market research, new product development, application of R&D and networking.

Mid-term

- a. Integrate timber products from non-FORESCOM community concessionaires into sales catalogs, using this leverage to recruit them as new members.
- b. Create a marketing division for NTFPs, centered around xate.
- c. Select and train technical, professional and administrative personnel from inside the corporation to consolidate their operational competence within its various divisions.
- d. Enhance strategic alliances with prospective customers for services and for lesser-known certified wood.

Long-term

- a. Position FORESCOM as the business platform for community organizations and as a 'one stop' integral purveyor of MBR forest products and services.

Resources and investments

FORESCOM's assets exceed a million dollars, distributed among woodworking machinery, such as molding planes, shapers and bench saws donated by MAGA, drying kilns obtained through OIKOCREDIT of Holland, and road-building and maintenance machinery purchased with USAID funds. Their offices and lot were acquired with their own funds.

For over ten years, technical support to the forest communities was subsidized, but in 2004 communities began paying these services, and at that point FORESCOM began providing the assistance that outside organizations formerly had provided. This arrangement has led to more community involvement in management. They now own offices,

employ permanent administrative personnel and conduct reasonably efficient management.

FORESCOM made its first investments in 2004, and by 2008, had acquired equipment and infrastructure as shown in **Table 4**.

Table 4
FORESCOM Investments 2004-07

Year	Description	Amount (\$)
2004	Purchase of land for processing plant with their own funds and those of their shareholders.	130,000.00
2005	Wood purchases of secondary species from members, through a donation from Holland (ICCO).	460,000.00
2006	Purchase and installation of infrastructure for processing value-added products, dimensioning equipment, molding planes, plant and installations donated by MAGA through CIPREDA.	260,000.00
2007	Acquisition/installation of three drying kilns and a fork lift, and construction of a plant warehouse; loan by OKIOCREREDIT.	300,000.00
TOTAL INVESTMENTS		1,150,000.00

Source: FORESCOM 2009.

Major challenges

During the period 1998-2002, community forest concessions sold their wood to local sawmills primarily as planks or as mahogany and cedar logs, their only option at the time. Further, mills provided felling and road building equipment to the communities. Business relations were based upon contracts which were frequently breached, provoking local lawsuits. Markets tended to be dominated by powerful entities that dictated prices and terms. With assistance from NGOs and CONAP, forest communities began to negotiate

export sales of sawn mahogany and cedar on their own.

Since FORESCOM's inception, it has worked on behalf of its members to consolidate and facilitate new business relationships based upon advance payment for sawn mahogany and Pucté logs. These practices, however, remain incipient, requiring market consolidation as well as profit margin improvement for shareholders.

Although FORESCOM's business relations with member communities began well, increased communication is crucial for



the communities to fully regard the body as their own. Moreover, FORESCOM has made strategic alliances with local forestry industries, but these require consolidation and cultivation in order to be considered long-term relationships.

One of the functions FORESCOM could assume that would be met with enthusiasm from the communities is xate collection, classification and marketing. Some communities have been doing this independently since 2005, but FORESCOM may leverage better prices and terms, particularly since a stable market exists and its FSC certified status would add value for buyers.

FORESCOM has operated formally for six years, is recognized locally as an important initiative in the Petén, and has technically experienced and qualified personnel and infrastructure for secondary processing. In 2005-07, the company averaged over \$340,000 income per year in sales and services of wood products alone (including deductions for royalties, certification and infrastructure rental). Despite this, the organization remains fragile in structure and insufficiently nimble in management. Increased capacity is central in order to achieve adequate confidence among shareholders and a convincing image for potential buyers.

Rainforest Alliance's Technical Assistance to FORESCOM and its Members

Rainforest Alliance (RA) is an international organization active in over seventy countries, with a mission to 'conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behavior.' The organization's Forestry and Agriculture programs certify companies that comply with the sustainability standards of the Forest Stewardship Council and Sustainable Agriculture Network, respectively. The tourism program educates hoteliers and other tourism operators on sustainable tourism Best Management Practices.

In addition to forest certification activities, Rainforest Alliance has developed sustainable forest management projects in several countries, aiming to improve the competitiveness of community forest and small- and medium-sized enterprises. These projects are run through the TREES program, an initiative focusing on *TR*aining, *E*xtension, *E*nterprises and *S*ourcing that aims to enhance economic performance for small businesses, individual producers, and rural communities, especially indigenous groups.

Since 2005, Rainforest Alliance has assisted FORESCOM by providing technical assistance on production lines, sawmilling techniques, inventory and cost control, and has acted as a liaison with prospective buyers seeking certified products. Rainforest Alliance has leveraged funds and other assets to support additional investments,

designing and implementing policies and practices for effective and integrated administration of natural resources. It has also assisted with the development of business plans for timber and NTFPs, and generally promoted value-added processing, assisting FORESCOM in consensus-building among its members in forming general strategies for enterprise improvement.

This section of the case study summarizes the efforts undertaken by the Rainforest Alliance in its assistance to FORESCOM, and reports on some concrete achievements. It is hoped that by raising awareness about the effectiveness of these technical assistance instruments, the approaches taken here can be adapted and applied among small- and medium-sized forest enterprises in other regions.

Support for investment leverage

In cooperation with other entities, Rainforest Alliance has aided and oriented FORESCOM's search for alternate sources of financing to further its development and increase its capacities, particularly by promoting lesser-known secondary species processing. Investments have been made in infrastructure, equipment and access to credit by the Guatemalan government and private entities, including the Technical Institute for Training and Productivity (INTECAP), the Central American Institute for Business Administration (INCAE-FOMIN), the National Competitiveness Program (PRONACOM) and the Dutch NGO

ICCO, among others. This assistance has encouraged both members and non-members to invest on their own behalf in primary transformation.

Table 5 summarizes the funds obtained during 2005-08, showing a total of \$931,085 and identifying sources, investments and results achieved.

Table 5
Funds obtained by FORESCOM and forest concessions

Year	Description	Source	Amount	Result
2006	Strategy implementation to install secondary processing plant for added value to timber products.	MAGA	\$ 260,000	FORESCOM's industrial plant for processing, dimensioning & molding lesser-known species of forest products went into operation in early 2007.
2007	Implement training of community personnel in forest industry production in Petén.	INCAE-BID/FOMIN, USAID, PRONACOM, BAREN COMERCIAL e INTECAP	\$75,000	Ten representatives from the forest concessions received 7 months training in value-added processing and forest industry management.
2008	Complement to equip the FORESCOM plant, work capital, training, and technical assistance.	OIKOCREDIT	\$300,000	FORESCOM's 3 drying kilns monthly capacity is 60,000 board feet; began operations at the end of 2008.
2008	Inaugurate second-level business division and improve management performance to develop xate markets.	AGEXPORT DANIDA	\$69,200	Now being implemented with forest community businesses.
2008	Increase productivity of xate in natural forests in 5 concessions through integrated management of NTFPs.	Inter-American Foundation (IAF)	\$226,885	Now being implemented through ACOFOP and community enterprises.
TOTAL LEVERAGED FUNDS			\$ 931,085	

Source: Source: Own archives, (2010).

Funds leveraged through MAGA and OIKOCREDIT are also cited in Table 4; they are the results of Rainforest Alliance's direct efforts to assist FORESCOM and have currently become part of the corporate assets.

Other investments at the community level by four FORESCOM members and one non-member were made in equipment purchase and replacement: sawmills, skidders and primary wood-processing installation improvements, as shown in **Table 6**.

Table 6
Annual investments (\$US) by five concessions (2005-2008)

Community Enterprise	INVESTMENT				TOTAL (US\$)	Yearly average by enterprise
	2005	2006	2007	2008		
<i>Carmelita</i>	0	86,800	17,600	0	104,400	26,100
<i>Uaxactún</i>	6,667	14,000	45,200	0	65,867	16,467
AFISAP	18,667	6,667	33,333	0	58,667	14,667
<i>Árbol Verde</i>	0	49,148	65,333	12,000	126,481	31,620
<i>Impulsores Suchitecos</i>	0	50,000	94,733	0	144,733	36,183
Total (US\$)	27,339	208,621	258,206	14,008	500,148	\$125,037

Source: Rainforest Alliance 2009

Technical guides for integrated management plans for Non-Timber Forest Products (NTFPs)

Xate palm leaf (*Chamaedorea spp*) extraction began over forty years ago in the Petén during the time that the FYDEP had responsibility for extraction permits for both timber products and NTFPs. With the advent of the MBR, CONAP assumed this function as well as its administration. Nevertheless, at least ten studies undertaken between 1990 to 2007 showed a marked depletion of

this resource within the MBR – in the *Yaxá-Nakún-Naranjo* National Park, for example, abundance dropped from 2,112 leaves per hectare in 1990 (Solórzano, 1990) down to only 833 leaves per ha in 2006 (Quevedo, 2006).

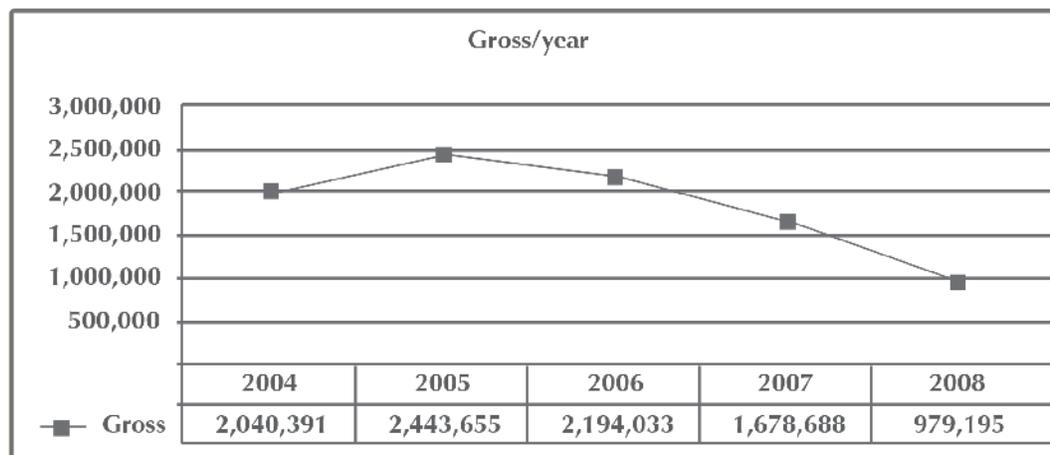
CONAP's export data for 2009¹, based on export license registries, shows that over the five-year period of 2004-08, xate exports fell from 2,040,391 gross² to 979,195 gross (see Figure 4). The principal markets are the United States (43%), Holland, Germany, Japan and Canada.

¹CONAP's export data on national level for 2009.

²A gross is equivalent to 80 leaves of xate, according to Management Norms for Transport and Commercialization of *Chamaedoreas* in Guatemala, approved by CONAP in 2008, and valid from 2009.



Figure 4
Reduction in xate exports from Guatemala 2004-2008



Source: Xate Business Plan, (2007).

Countermeasures were taken to reverse destructive xate harvesting practices and in 2003 CONAP and USAID devised a set of norms and instruments to regulate sustainable xate management within the concession areas of the Multiple Use Zone. CONAP approved three management plans in 2004-05: *Cooperativa Carmelita*, *OMYC Uaxactún*, and *AFISAP San Andrés*. By the end of 2005, two of these communities had begun direct export of xate.

To work toward the permanent adoption of better management of this resource, Rainforest Alliance has continued assisting these three organizations in implementing their management plans since 2005, also guiding CONAP in the regulation and application of planning, management and monitoring instruments. Rainforest Alliance has extended these concepts to draw up management plans for other NTFPs; besides xate (*Chamaedorea spp*), species include chicle (*Manilkara zapota*), allspice (*Pimenta*

dioca), breadnut (*Brosimum alicastrum Sw*), fan palm (*Sabal mauritiiformis*), basket tietie (*Desmoncus orthocanthos*), and copal resin (*Protium copal*).

Additionally, Rainforest Alliance coordinated with CONAP and the Ministry of the Environment and Natural Resources (MARN) to draw up the National Strategy for Conservation, Management, and Marketing of xate in Guatemala. Validated by CONAP and vetted by growers, producers, and exporters, Rainforest Alliance created a series of instruments for xate monitoring and enhanced yield of commercial leaves, developed methodologies for permanent xate cultivation, leaf evaluation, and management plan compliance.

Profit margins were widened and production costs lowered as the communities subscribed to the guide recommendations for integrated management plans and as diversified product culture became more commonly

applied throughout the Multiple Use Zone. FSC certification of the three concessions (totaling 467,556 acres) was achieved in April of 2008.

FORESCOM Institutional and Business Strengthening

Rainforest Alliance has been instrumental in consolidating FORESCOM's business capacities. The BID-FOMIN-INCAE Project yielded useful instruments for gaining additional resources and coordinating teamwork, assisting FORESCOM by providing a manual defining its various functions, organizational structure and timber product marketing plans. Rainforest Alliance has likewise guided FORESCOM's member organizations toward commercial expansion for NTFPs, drawing up a business plan for xate markets development to assist community enterprises beginning to export.

a. FORESCOM's internal organization

FORESCOM's operational structure was developed to align personnel towards self-improvement in serving the needs of clients, suppliers, involved institutions, and community participants-shareholders. The document outlining this structure emphasizes 'organizational structure and culture', citing functional divisions of administration, personnel, sales, application processes, purchasing and finance, directed towards products, services, and marketing. The manual is based on the premise that

administration is not the exclusive privilege nor personal charge of board members and managers, but rather a responsibility to be shared among all personnel. Functional descriptions for the positions of strategic director, CEO and business units are included, making the manual highly relevant given FORESCOM's growth and expansion during its first years.

b. Business plan for timber products

To provide FORESCOM a guide for the 5-year period from 2007-12, Rainforest Alliance and OIKOCREDIT developed a plan for short-, medium-, and long-term development. Value-added products hold a place of major importance, enabling greater competitiveness in new markets.

Significant growth opportunities for FORESCOM became evident upon market evaluation, in view of the demand for traditional timber products as well as new products and services. A leadership role for FORESCOM is articulated, integrating member organizations into a competitive business platform, directed towards international, regional, and local markets under a plan of action encompassing the following strategies:

- Installation of industrial plant equipment and promotion of value-added of the product mix through optimal distribution.
- Develop drying, molding, warehousing and marketing services under consideration for re-cycling.

- Develop a system of lumber yards for finished and unfinished lumber to add value to services for member organizations through improved inventories and access to products, and to improve the interactions with new potential buyers and markets.
- Lower-grade tropical woods in high demand
- Lower-grade tropical woods in low demand
- Tropical woods for plywood manufacture and low-potential varieties

These services are directed towards production of diverse array of timber species:

- Precious woods of high commercial value,

Table 7 summarizes the six products and services under FORESCOM's business plan.

Table 7
FORESCOM'S business plan: Products and Services

No.	Product or Service	Strategic Actions	Annual volume processed
1	Funds for felling, removal, sawing and transport	This service is intended to assure FORESCOM member organizations access to funds to enable sustainable production in forest concessions, for precious woods of high commercial value and for tropical woods in high demand.	910,000 Doyle Feet
2	Kiln drying services	In offering this service to member organizations, priority is given to high-demand species like Mahogany, Cedar, Santa María, and Manchiche, as well as secondary species according to demand.	1,248,000 Board feet
3	Dimensioning and molding services	This service is focused on secondary species for added value, but plant capacity is adequate for processing commercial species as well, increasing the competitiveness of FORESCOM members.	1,584,000 board feet minimum
4	Finished and semi-finished product storage	The purpose of this infrastructure is to provide temporary storage for the volumes of marketable wood produced by member organizations, aiming to reduce material handling costs.	600,000 board feet minimum movement
5	Marketing services	This service is focused on a strategy for niche markets, cultivating certified secondary species sales. As commercial markets are cultivated, high-volume sales will follow, thus consolidating the relationship.	600,000 board feet minimum movement
6	Wood supply for plywood production	Utilization of secondary species is achieved by channeling these woods, undesirable in market, to local industry for plywood production. Some of these species include Amapola, Mano de León, Guacibán, Chacaj Colorado, Jobo, Canxan, Amate, Granadillo, Plumajillo, Ceibillo.	40,000 Doyle Feet

Source: Forescom Business Plan, (2007).

By the second year of the plan's implementation, year-end 2008, products and services 2, 3, 4, and 5 had been partially developed with modest initial results but showing great promise as more capacity was acquired and markets for secondary products consolidated. That year, FORESCOM recorded sales of \$467,277 for 298,296 board feet of value-added product. This has consisted mostly in planed lumber and molding of lesser-known species for construction, such as *Pucté*, *manchiche*, *jobillo*, *danto* and *santa maría*. Compared with the previous year, sales increased by 263% (\$177,343).

Likewise, strategic alliances promoted by Rainforest Alliance with FORESCOM and other member and non-member community enterprises increased access to new and lucrative markets. For example, Gibson Guitars representatives visited the FORESCOM plant to place orders for musical grade wood for a cumulative value of \$52,627, from AFISAP and CUSTOSEL, to be consigned to NAWPI, the Gibson representative.

c. *Xate business plan*

Two species of *xate*, *Chamaedorea oblongata* and *Chamaedorea elegans*, have the highest demand, and their extraction is continuous throughout the year, peaking from March through June. Perceiving interest and

need on the part of three community enterprises, Rainforest Alliance developed a specific plan for *xate* marketing, taking into account current levels of development and niche markets.

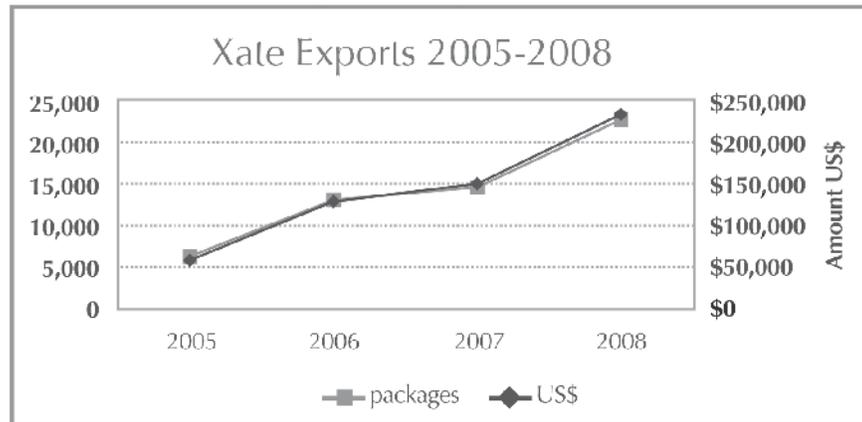
The plan is oriented towards the forest communities of *Organización Manejo y Conservación/Uaxactún* (OMYC), *Cooperativa Carmelita R. L.*, and the *Asociación Forestal Integral de San Andrés Petén* (AFISAP). All three communities lie in the Multiple Use Zone of the MBR. *Carmelita* and OMYC have traditionally relied on sales of *Chamaedorea spp* and are currently implementing *xate* management plans, having attained FSC certification in 2008. Both communities began exporting in 2005 with Rainforest Alliance support. In March of 2007 AFISAP was incorporated.

Market aspects

OMYC, *Carmelita* and AFISAP, besides the sale of sawn mahogany, cedar and secondary species such as *Santa María* and *Manchiche*, are currently exporting *xate* to end consumers under a CONAP-approved management plan. From 2005-08 their exports rose to 56,477 packs (1 pack=600 leaves) equivalent to a gross income of \$569,831 as illustrated in **Figure 5**.



Figure 5
Community xate Exports 2005 – 2008



Source: Source: Own archives, (2010).

Xate resources and operational strategy

As a direct result of Rainforest Alliance’s assistance to these communities, FSC-certified xate sales in 2008 reached \$233,378, or a total of 22,698 packs, exported to Continental Floral Greens, up from initial exports of 6939 packs, or \$72,742. Xate exports have been highly successful, which should encourage additional entities to join the committee or the business unit, and increase export potential.

The curriculum included practical training in machine setup and sawing, saw sharpening, kiln drying of lumber, classification and packing, laminates and veneers, as well as molding, flooring, and recovery processes and preventative maintenance. Plant personnel acting as mentors had themselves undergone training to enhance their efforts with the trainees. These trainees thus ‘learned by doing’ and now operate FORESCOM’s own industrial plant, while others manage community enterprise operations.

Service training

Together with INCAE-FOMIN, PRONACOM and INTECAP, Rainforest Alliance created a training program for community and FORESCOM personnel, to enhance their operational capacities and make them specialists in value-added processes. The first group of ten representatives from member communities attended a 7-month training program at Baren Comercial SA’s plant.

Cost and quality control for lesser-known species

Timber products

Following FORESCOM’s plant inauguration, in 2007 Rainforest Alliance initiated additional training programs in cost and production control, directed mainly to add value to lesser-known forest species such as Pucté (*Bucida buceras*),

manchiche (*Lonchocarpus castilloi*) and santa maría (*Callophyllum brasilienses*). These species had been primitively cut and sold unprocessed by portable sawmills during 2003-04, with production costs of ¢69 per board foot, according to BIOFOR analyses, and sales prices were at cost level or less. Little interest was shown in secondary species at that time; mahogany and cedar dominated the market and effectively subsidized secondary species marketing.

Average board foot cost of lesser-known species rose to 85¢ in 2007, due mainly to foreign exchange rates, fuel cost

increases, forest certification, as well as variations imposed by distance, type of transport, and available volume.

Rainforest Alliance assisted FORESCOM in determining production costs for value-added and kiln drying, and provided operations manuals and other instruments for drying, dimensioning, molding, packing and export preparation costs. These have been adopted as daily plant guides, in constant use at FORESCOM's plant. An example of 2008 of tongue-and-groove production cost for Pucté is shown in **Table 8**.

Table 8
Tongue and groove production costs for Pucté, FORESCOM 2008

Species: Pucté Product: TyG Measurement Unit: 1 board feet			
Processing Description	Q*/bf	\$/bf	Cost \$/m ²
Price setting plant raw wood	Q7.31	\$0.90	
Cost as production performance	Q15.36	\$1.90	
Drying Cost	Q1.65	\$0.20	
Price of dry wood dimensionless	Q8.96	\$1.11	
Cost of molding	Q1.81	\$0.22	
Cost molded product	Q18.82	\$2.32	
Cost Management	Q0.00	\$0.00	
Export and Packaging Cost	Q0.66	\$0.08	
Total Production Cost	Q19.48	\$2.40	\$25.82
% Utility	Q3.90	\$0.48	
Cost more useful	Q23.37	\$2.89	
IVA 12%	Q0.00	\$0.00	
ISR 1.55%	Q0.36		
ISO	Q0.23		
Plant sale price	Q23.97	\$2.96	\$258,206

Source: FORESCOM 2009.

*1 Guatemalan Quezatal equals approximately US\$0.12.

Although the primary purpose of the FORESCOM plant is to add value to the lesser-known species, low grades of traditionally commercialized woods, such

as mahogany and cedar, are also processed. Rates and production costs for all grades and species are noted in **Table 9**.

Table 9
Processing rates for grades and species at FORESCOM (\$/bf).

Species	Quality	Kiln-dried wood in varied width	Kiln-dried wood (dimensioned)	Kiln-dried and Molded
Manchiche	FAS Y SELECTA	1.79	2.76	3.33
	Shorts (2'—5')	1.12	1.74	1.98
Santa María, Pucté, Danto y Malerio	FAS Y SELECTA	1.54	2.38	2.96
	Shorts (2'—5')	1.12	1.74	1.98
Granadillo, Chechen y Jobillo	FAS Y SELECTA	2.25	3.44	4.24
	Shorts (2'—5')	1.68	2.59	3.11
Caoba	COMMON 1 y 2	1.79	2.77	3.36
	Shorts (2'—5')	1.23	1.82	2.09
Cedro	C1 or better	2.78	4.25	5.34
	Shorts (2'—5')	1.23	1.82	2.09

Source: FORESCOM 2009.

Non-Timber Forest Products

A 2006 study on xate palm as a tool for rural development³ illustrates value chain for this palm, as shown in **Table 10**.

Table 10
Percentage distribution estimate of cost/benefit/gross in xate palm value chain.

Title	Commercial species				
	Ch. ernesti	Ch. legans	Ch. oblongata	Valores promedio	Porcentaje (%)
Exported (gross).	2,494,995	366,517	1,727,213		
Export price/gross.	21.00	9.00	12.00	14	100
Cost of removal. (provisions, equipment).	1.97	1.82	1.82	1.87	13.36

³The role of natural products in rural development, poverty relief and governance in management of resources: the case of xate palm in Petén (Reyes, R. 2006)

Profit margin for harvester	7.60	0.03	0.03	2.55	18.24
Contractor's fees (Personnel transport, provision, fuel, lubricants, vehicle main-tenance, depreciation, taxes, payment to guides).	0.62	0.62	0.62	0.62	4.43
Contractor's profit margin.	1.43	1.43	1.43	1.43	10.21
Handling charges for export.	0.94	0.94	0.94	0.94	6.71
Losses (rejects/waste) (30%).	3.24	3.24	3.24	3.24	23.14
Profit margin for exporter.	5.2	0.92	3.92	3.35	23.91

Source: Reyes, R. (2006).

Rainforest Alliance helped organize three community organizations to export xate directly. Later cost analyses revealed significantly increased benefits over the traditional system. The community xate

committee has taken complete control, from extraction, classification, packing, through export. A comparative analysis of the traditional system versus the present community project is cited in **Table 11**.

Table 11
Profit comparison: Community xate project vs. traditional system

Sector	Traditional	Income	Community xate Project	Income
	%	Q*	%	Q.
Variable costs				
Purchase of xate (collector)	16	Q939,882,10	50	Q2,937,131.57
Selection	4	Q234,970,53	5	Q293,713.16
Packaging materials	6	Q352,455,79	6	Q352,455.79
Transport (local & national)	15	Q881,139,47	13	Q763,654.21
Fixed costs				
Administration (warehouse and cold chamber)	10	Q587,426,31	10	Q587,426.31
Taxes & export application	3	Q176,227,89	3	Q176,227.89
Profit				
Communities	0	Q0.00	13	Q763,654.21
Contractor	17	Q998,624,74		
Entrepreneur	29	Q1,703,536,31		
Totals	100	Q5,874,263,15	100	Q5,874,263.15

Source: dBase 2007, Business Plan, Manzanero, M.

*1 Guatemalan Quezetal equals approximately US\$0.12.

New markets for lesser-known species & NTFPs

Timber-yielding products

Rainforest Alliance's assistance to FORESCOM and its member communities has been directed toward promoting lesser-known species and lower grades of the traditionally commercialized species; these have been Pucté (*Bucida buceras*), santa maría (*Calophyllum brasiliense*), manchiche (*Lonchocarpus castilloi*) and danto (*Vatairea lundellii*). Through this support, orders for 1,318,964 board feet of product have been placed, and a gross income of \$4,867,001 has been earned by FORESCOM and its members. Other value-added products include guitar components, ecodecking, flooring, quad-faced dimensioned lumber for construction and molding through FORESCOM in liaison with private industries in the Petén.

By 2008, relationships with seven new customers for timber products had been achieved. Five customers are foreign: Earth Source (USA), Espen (Germany), Gibson Guitar (USA), North American Wood

Products (USA) Ottar Norman Saeterlid (Norway), and are two Guatemalan: Carpintería Riviera and Instaparquet. All are interested primarily in lesser-known species. Riviera has purchased seconds for furniture development and Instaparquet has purchased different sizes of flooring. FORESCOM and UNIMASA generated a market for pucté in 2007 for high-level design residences. Also, small and medium businesses and NAWPI have joined to supply special mahogany cuts and grades for Gibson Guitars.

Table 12 compares sales from 2003 and 2008 for all community forest enterprises and FORESCOM. This table shows that while the volume produced has increased only slightly, incomes have increased 52% for secondary species and 50% for mahogany and cedar. This increase came as the direct result of value-added marketing for finished goods made of secondary species and for low grades of mahogany and cedar. Increased income from higher grades of cedar and mahogany was due to the promotion of certified wood and to high market demand for regular grades; their prices rose from \$1.96 to \$3.18 per board foot within the time period.

Table 12
Timber sales by ten community forest enterprises for 2003 and 2008

Year	Mahogany and Cedar			Secondary Species			Totals		% Sales mahogany and cedar	% Sales Secondary Species
	Vol (m ³)	BF	US\$	Vol (m ³)	BF	US\$	BF	US\$		
2003	3,175	1,349,377	2,487,502	1,100	484,829	325,463	1,834,206	2,812,965	88	12
2008	3,649	1,425,301	5,008,210	1,129	468,363	859,676	1,893,664	5,867,885	85	15
Diference	13%	5%	50%	3%	-4%	62%	3%	52%	-4%	20%

Source: Export sales control, Guatemala, 2009

FORESCOM consolidated hardwood processing and marketing in 2008, with total sales of \$467,277 from 298,296 board feet of value-added product. This included quad-face planed lumber and molding for construction in lesser-known species, such as manchiche,

Pucté, danto and *santa maría*. Having a surplus of wood from the previous year, little was purchased in 2008, but value-added accounted for the higher income. **Table 13** summarizes FORESCOM's purchases/sales for the period.

Table 13
FORESCOM purchases and sales – 2005-2008

Year	Purchase details	Value of Purchase (\$US)	Description of product sold	Value of sale (\$US)
2005	Log	222,350	Sawed	297,225
2006	Log	378,015	Sawed	399,430
2007	Logs and sawed lumber	231,010	Dimensioned and molded	195,637
2008	Logs and sawed lumber	137,300	Dimensioned, kiln dried, and molded	467,277

Source: FORESCOM 2005-2009

Non-timber forest products

Xate merchandising was essential for establishing and developing the community forest enterprises traditionally dedicated to collection of this palm leaf. Rainforest Alliance support of their project enabled integrated and sustained management of the crops and subsequent international sales. Good forest management and good commercial logistics for export have significantly enhanced the communities' family incomes, improved their quality of life and well-being, and enhanced the conservation of MBR protected ecosystems.

These sales were made through a unified organization of xate exporters, with support from Rainforest Alliance. Only three community enterprises initially joined to export, then two more followed in 2007, exporting to Continental Floral Greens, a US firm, and eventually developing a system to export xate directly.

Sales of these five xate producers are shown in Table 14 for 2003-08. We see sustained growth for the five forest enterprises participating: Carmelita, AFISAP, Uaxactún, El Esfuerzo and La Pasadita.



Table 14
Timber and non-timber forest product sales
from five forest community enterprises

Year	Timber	Non-Timber	Total US\$
2003	839,576	0	839,576
2004	736,572	0	736,572
2005	1,179,722	58,791	1,238,513
2006	993,591	129,209	1,122,800
2007	1,537,919	148,452	1,686,371
2008	1,893,668	181,358	2,075,026

Source: Rainforest Alliance 2009.

Analysis of Results

Building on the observations and findings of previous chapters, this chapter summarizes the principal influences on and benefits to FORESCOM and its member concessions, from an economic, social, and environmental perspective. Increased employment and income, investment stimulation, efforts towards improved competitiveness, advances in transformation and value added of lesser-known species, marketing of NTFPs such as xate – all of these aspects were positively affected by Rainforest Alliance assistance to FORESCOM and its members. Our results cover the period of 2003-2008, and show the effects of Rainforest Alliance presence and support from 2005 onwards.

Economic component

Although the primary objective of forest concessions in the Multiple Use Zone is the conservation and sustainable use of natural and cultural resources, the many benefits generated have had a positive impact on the lives of community members, improving the standard of living and instilling a progressive cultural climate. The state itself has also benefited economically through the increased payment of taxes and other fees.

Income

Average annual income of the concessions exceeds four million dollars. In 2003, income from sawn wood was \$2.8 million, and by the end of 2008 this figure had more than doubled to \$5.8

million, despite a mere 5% annual increase in product volumes. These gradual increases in earnings have arisen from increased market demand with consistent price increases for mahogany and cedar; from improved forest management and cost control of such critical functions as forest inventory; from volume maximization and improved sawmill techniques; from value added to secondary species formerly sold as sawn wood; from finished product exports of *Pucté*, *Manchiche* and *Santa María*; and from the preference of buyers for FSC certification.

Three community organizations also began marketing NTFPs in 2005 (principally xate palm leaf), and were joined by two additional groups in the next two years. Product sales tripled within three years, from \$58,791 in 2005 to \$181,358 in 2008. In 2008 over half of the community organizations' total income came from xate sales, up from its traditional value of around 20%. This benefit was a direct result of Rainforest Alliance assistance to the participating organizations.

Increased income from both product groups has enabled the concession holders and FORESCOM to enhance both their own business development as well as natural resource conservation practices. Rules are clearly established for the latter, and concession holders are enthusiastic about measures that will protect the resources that benefit them so directly.

This incipient entrepreneurial culture, despite limited formal education of



those who make up FORESCOM and its member communities, has enabled increased bargaining power, investment planning, and credit acquisition at preferential rates as opposed to climate-vulnerable agricultural loans. All FORESCOM organizations operate under current laws, pay taxes, and contribute to social security in the amount of approximately \$900,000 annually. This is in sharp contrast to previous years, when few concession holders had access to resources in an informal economy, and profits were concentrated in the hands of middlemen.

Investments

Community records show annual investments of \$24,000 to \$49,000 for 2003-08, primarily for production equipment and machinery, such as sawmills and skidders for primary forest operations and processes. Through these investments, made possible by profits from forestry enterprise, the concessions have achieved greater autonomy through ownership of the means of production, even using their profits to acquire farmlands.

The communities' major investment over the 5-year period was the establishment of FORESCOM, which required a contribution of \$10,000 from each shareholder community. Using their own funds, loans, subsidies and other means, the communities acquired additional assets, accumulating over \$1.1 million in real estate, working capital, machinery and equipment for secondary processing and drying kilns.

FORESCOM's industrial plant offers its services to members and the public, such as molding, planing and dimensioning, kiln drying, processing of finished goods such as decking, parquet, tongue and groove, shiplap, baseboard, framing and ecodecking, mostly using lesser-known species (*Pucté, Santa María, Danto* and *Manchiche*), as well as lower grades of mahogany and cedar. Rainforest Alliance has provided constant assistance to FORESCOM throughout the development of these products and their sale to certified markets.

The five communities active in the collection, classification and merchandising of xate to export markets invested over \$352,000 in equipment and facilities in 2006-2007, including the purchase and maintenance of vehicles, and the construction and furnishing of warehouses. All of these investments were financed with the earnings from export sales.

FORESCOM member benefits

In its sixth year of operation, FORESCOM enjoys extensive business relations with banks, commercial and service entities, and exporters and importers in the Petén district of Northern Guatemala. In the MBR, FORESCOM interacts with member and non-member communities, serving its founders through traditional business channels. Other member benefits include:

Royalty fees: Since 2004, these have been paid directly by forest concession holders, having been subsidized prior to that time by NGOs demanding compliance with stringent requirements.

Independent administration and technical personnel training was not possible. FORESCOM now contracts forest professionals, for whose services its members pay preferential rates, enabling their growth and further identification with the FORESCOM entity.

Certification costs: FORESCOM achieved group certification for sustainable forest management according to the FSC principles and criteria in 2005, allowing a significant cost reduction for annual audits. Although forest certification was subsidized prior to FORESCOM, the annual audits were not, putting a burden on the member communities. Group certification has reduced costs significantly.

Value-added processing for lesser-known species: FORESCOM members now have the option, and indeed the right, to use processing facilities for adding value to lesser-known species, kiln drying, and dimensioning finished products, thus tripling product value, generating more income, and facilitating access to international markets. Further, all plant personnel is drawn from member communities.

Marketing services: This has been a major contribution of FORESCOM. Market cultivation is a long-term process, and the fruits of these efforts were seen in the 2007-08 export sales, principally in *Pucté*, *manchiche* and *santa maría* and the lower grades of mahogany and cedar. FORESCOM sought and cultivated niche markets emphasizing product certification and high-volume accessibility. By 2010, FORESCOM will likely have absorbed the xate committee

into a newly-formed division, using the business platform and structure already developed through the assistance of Rainforest Alliance and other NGOs.

FORESCOM and concession sustainability

In the mid-1990s, the concessions granted in the Petén focused mainly on woodland protection, with support from environmental organizations. In 2002, technical assistance took a more profit-oriented direction, with a focus on economic sustainability in addition to the conservation of the MBR's natural and cultural resources. Under CONAP and ACOFOP, this approach led to tangible benefits. FORESCOM has been in operation for six years, progressing slowly but surely, assisting in the formation of new enterprises, despite the fact that the development of entrepreneurs has proceeded at a slower pace.

Technical assistance from international organizations helped fortify technical and administrative capacity within the community concessions. This was done through the development of human resources and the application of management planning and administration techniques among the community forest members of FORESCOM.

FORESCOM's aims are to achieve environmental sustainability and economic and social progress in Petén, while its own operational costs are covered by forest royalty and certification as well as its value-added to regional products.

Although major progress has been achieved in technical aspects of forest



management, with community personnel trained in these aspects and in sawmill techniques, challenges remain in adding value and successfully marketing lesser-known species. Another six years may be required to attain these goals for the entire membership of communities. The present generation of leaders and key community figures has limited formal education, but the younger generation is better educated and represents great potential for the future of these enterprises.

CONAP, as MBR overseer, has responsibility but little authority or resources to prevent squatting, poaching, or other abuses occurring in the other zones. These menaces remain latent and CONAP's strengthening and consolidation are essential.

Social aspects

As mentioned earlier, before the communities took responsibility for caring for their areas, the region was largely ungovernable, deforestation was rampant, farmlands encroached upon woodlands, and archaeological monuments were plundered. Noteworthy changes occurred in employment opportunities once FORESCOM was developed; however, this success is tempered by conflicts of interest that emerged at the community level.

Employment generation and training

Over 70,000 workdays per year were generated from forest concessions within

the MBR, with jobs ranging from commercial inventory to sawmill operations to surveillance. After adding eleven permanent jobs to the FORESCOM plant, over three hundred workers were permanently employed. Further, the extraction and marketing of xate generated nearly 40,000 workdays, for another 109 additional jobs annually; these figures cover only those five pioneer enterprises in xate exports.

Data from 2008 shows over four hundred permanent new jobs annually within FORESCOM and the community forest enterprises, directly benefiting over 10,700 people and indirectly over sixty thousand within the MBR. Community members' standard of living and family stability improved, poverty decreased, and access to education and healthcare were enhanced, all due to forest-related activities. Salaries exceed the legal minimum⁴ and working conditions are more stable and include rights to social security.

Principally in xate processing, 56% of classification, quality control and packaging is done by women. Likewise, legislation against gender discrimination has enabled the participation of women in management, another achievement in women's rights.

Further, personnel capabilities have been enhanced in technical, operative, and business areas. Each community enterprise employs specialists in forest inventory, commercial census, felling supervision, cubage and sawmill operations. Communities currently prepare export documents and

⁴Minimum salaries for field laborers in Guatemala in 2008 equaled about \$7.6/day; forest concession workers were paid over \$10/day during this period.

directly submit applications to CONAP and other governmental control entities, whereas prior to 2004 these functions were performed by international NGOs. Now FORESCOM and its members employ capable professionals to provide technical assistance in forest management, industrialization and certification. Some community technicians and other specialized personnel have been contracted as consultants and trainers in forest management in Nicaragua, Belize, Panama and Peru, indicating the high degree of human resources within the MBR.

Public & private alliances

An example of cooperation among MBR components is FORESCOM, composed of eleven forest community enterprises. Before 2005, however, conflicts had arisen between community and industrial concessions, who were competing for the same customers under different conditions. With Rainforest Alliance assistance in 2006, relations were established between FORESCOM and *Baren Comercial, S.A.*, under the program, "Learn by Doing". Since the formation of this 'win-win' alliance, internal relations have improved and more frequent and extensive cooperation is anticipated.

Both jointly and separately, FORESCOM and its members enter into agreements through local banks, principally for the financing of forest operations and readily qualifying for loans on the basis of their annual investment plans. FORESCOM presently accesses credit from OIKOCREDIT, a Dutch finance firm, under low interest and favorable terms.

Xate processors, meanwhile, have initiated alliances with North American and European buyers. With assistance from Rainforest Alliance and the University of Minnesota, export relations with Continental Floral Greens, of Houston, Texas were formalized in July of 2005, with Carmelita and Uaxactún community concessions being joined by AFISAP in 2007. Thus Rainforest Alliance has assisted in forging direct export relations without intermediaries and using sustainable management principles for xate leaf harvest approved by CONAP.

Social conflict

Social conflicts arise both internally and externally. That communities could work with their neighbors to operate a complex enterprise was always perceived as questionable; numerous similar attempts have failed in developing countries. To some degree the problem has political roots; concessions were frequently granted to groups totally unrelated to the forest. Only six groups have permanent settlements in their forest concession areas; other groups were formed with the specific purpose of obtaining a concession.

Technical assistance from 2001-2005 emphasized discussion, consensus and the approval of better monitoring norms for each community enterprise. This was appropriate in that production processes were new to the concessionaires, entailing new aspects of organization, power/benefits distribution, fund management, and decision-making. The norms adopted by the communities stress the need for monitoring income, and concerted



attention is now directed toward honest and transparent management and investment. ACOFOP has aided in fortifying internal capabilities of the organizations, which has promoted community autonomy.

Other social conflicts originate externally, such as *Parque Mirador*, an enormous tourist project with potential to conflict with the AFISAP and *Carmelita* concession areas, or squatters invading the national parks, a no-man's land. This is where ACOFOP has defended the forest interests so effectively, promoting a network of strategic alliances and obtaining their institutional status before government authorities. Community concession-holders consider themselves owners of forest resources, and the majority meets their responsibilities in protecting their new source of income.

The Environment

Sustainable management and certification

A number of policies, laws and regulations relevant to forest management, Guatemalan territorial reserve regulation, protection and enhancement of the environment, exploitation norms, and natural resource management in the MBR Multiple Use Zone were taken into consideration in the development and implementation of the concession process.

The law stipulates that, to grant a concession, an NGO should guarantee its proper management and administration and that the concession be certified

within the three years following its grant, thus allowing international NGOs to provide assistance, develop forest management techniques, administrative and accounting documents, and management and monitoring manuals. These instruments are accompanied by training for technicians and concessionaries. CONAP relies upon this legal context to provide an improved good management guaranty. The obligation for forest certification has been recognized and adopted by MBR communities and all concession holders have obtained certification within the terms established by CONAP under subsidy of their accompanying entities, the majority financed by USAID.

As in the case of technical assistance, the concessions have paid for their own audits or certification evaluations since 2004. As a service to its members, FORESCOM has undergone FSC group certification in order to lower auditing costs and ensure compliance to sustainability standards.

Notwithstanding these gains, maintaining certified status has been difficult for some concessions. Failing to uphold the certification is a breach of contract for the concessionaire, a severe and complex situation that is difficult to enforce. More practical penalties may need to be negotiated for such cases to avoid crisis. Currently four concessions are suspended due to their inability to maintain adequate surveillance over their lands. The certification body and CONAP have initiated a dialogue to avoid legal dilemmas associated with the terms and clauses of the concession contract – in

particular, the clause that refers to the maintenance of the certificate for the entire area of the concession. The area of these four concessions represents about 15% of the total certified area (about 1,151,904 acres) of community and industrial forest concessions.

Biodiversity protection

Periodically updated maps of MBR forest cover (WCS, IRG, CONAP 2002) shows the contrast between forest cover reductions in the national parks and the stability of forest cover in the forest concession areas. Analyses of satellite imagery annually has revealed a remarkable reduction in deforestation in the Multiple Use Zone since most of its area was placed under concession in 1997. Given the close relationship between forest cover and biodiversity, no hope will remain for the flora and fauna of the MBR without preservation of this habitat.

These results have been achieved because of concession holders' annual

investment of \$200,000 in monitoring and surveillance, which has also resulted in reduced forest fires within the Multiple Use Zone. Those concessions that are managing their forest areas well also contribute to biodiversity protection, since their controlled felling and xate harvesting affect ecological integrity minimally. Their presence in the forest throughout the year discourages poaching, illegal felling, squatting, and further encroachment of farmland borders. Management plan implementation through selective xate harvesting has reduced significant plant damage.

Moreover, biological monitoring by the Wildlife Conservation Society comparing recently-harvested areas with adjacent areas that are untouched show that low intensity felling as practiced by the concessions is compatible with biodiversity conservation. Indicator species were birds, butterflies, beetles and larger vertebrates. Definitive conclusions, however, will not be possible until data is collected from subsequent years.

Lessons Learned

Assistance provided to the concessions during the first decade created dependencies.

Although the Maya Biosphere Reserve benefited from abundant assistance from its inception until the advent of FORESCOM, such subsidies initially created dependencies and, to a certain degree, stifled internal development by the communities themselves and their enterprises. This assistance was sometimes invested poorly, rather than being directed to the more relevant needs of the region. However, such initial support by local environmental NGOs (whose chief interest was forest protection, in the Buffer and Core Zones) was decisive in promoting the first concessions, including San Miguel la Palotada (1994) and La Pasadita (1997) in the Multiple Use Zone.

The initial emphasis on conservation over community development, after a decade of support, brought about conflict to the extent that both of the above concessions' FSC certificates have been suspended since 2008, with Cruce de la Colorada having recently been suspended as well. These three organizations were classified as weakest in a document prepared by Chemonics International, in 2003.

Outside aid accelerated the development of forest community enterprises, but helped little in forming business-minded leaders.

Although the forest community enterprises and FORESCOM represented a significant advance for the area, as the organization

evolves there is a need to train a new generation of leaders. These organizations are composed of farmers, laborers, xate and chicle processors⁵, taxi drivers, money changers (from the Belize border area, Melchor de Mencos), and a few housewives and teachers. The organizations have largely outgrown their original goals and limitations, so a new generation should be educated to professionally manage these organizations with more accountability. These are profitable businesses, requiring development of the skills and capabilities of specialized personnel.

Despite having renewed their statutes and regulations, even their management plans, they still require technically-trained and administrative personnel for efficient cost control and investment planning on medium- and long-term bases, dexterity in management of cash flow and capacity to present coherent reports to their boards of directors and general assemblies. FORESCOM and its members need to form relationships with the universities, with the Technical Institute for Training and Productivity (INTECAP) and the Association of Guatemalan Exporters' (AGEXPORT) business administration school, developing cooperative agreements for training second-generation concession members.

Forest certification has its limitations

The suspension of several concessions has raised doubts regarding the effectiveness of certification as a sustainability guaranty and prerequisite for concession holders.

⁵xate and chicle processors, traditionally work in the extraction of chicle (*manilkara zapota*) and xate (*Chamaedorea sp.*) in northern Petén as day laborers.

On the other hand, some contend that certification is only a comparative advantage for marketing access, while others say that for the Republic of Guatemala it should be a perpetual guarantee of resource management. Despite the benefits of forest certification, its limitations are evident where fragile social conditions exist. For CONAP, the forest certification requirement is a contract between the state and the concessionaires, to be kept over its term of validity (25 years, renewable), breach of which automatically leads to loss of concession. Some consider this restriction to be severe and excessive, considering that access to certification was subsidized almost entirely by international entities, but ultimately it sometimes requires heavy investment by the concessionaires. Suspension of certification of San Miguel La Pelotada, La Pasadita and Cruce a La Colorada would indicate that solutions are necessary to prevent the situation at these three concessions from degenerating in a crisis that would put their entire concession process at risk.

FORESCOM's accomplishments are laudable, but there is still much to be done.

While FORESCOM is perceived as a viable alternative business platform for Petén concessionaires, its benefits to members, after six years of operation, could be more than product processing and value-added for lesser-known species. Within another three to five years, social and economic studies may enable an evaluation of these aspects. FORESCOM has made progress in its first stage, establishing the basis for the communities' social and economic development. CONAP's strategy for the

Multiple Use Zone is to delegate its management among the community forest enterprises, protect the concessionaires' long-term rights by contract, and as allies, join in the conservation of the protected areas. Such shared responsibility imposes onerous charges on the concessionaires, even when they are given exclusive use of the contracted resources. Given their brief history of operation, such expectations might be unrealistic.

FORESCOM's rapid growth in equipment and infrastructure has surpassed its development of management personnel.

In less than six years, FORESCOM has accumulated assets of over a million dollars, nearly \$600,000 of which are invested in real estate, installations, secondary processing equipment and kiln dryers. The realization of its maximum potential and stability requires further development of human resources, particularly in management and technical areas. While processing and value-added capacity for products increased between 2004 and 2007, the full potential has not been achieved, due to lack of adequately trained personnel. Since business success is directly dependent upon the caliber of corporate management, this must be accomplished soon. Personnel development should be a continuous process, combining youth and experience, responding to the demands of the global market.

Biodiversity conservation is profitable when institutions are strong

The primary objective of the MBR, expressed in 1990, is conservation of the biodiversity and archaeological values



while promoting sustainable resource management. During the first five years, which had a fairly strict focus on conservation, the MBR was rampantly ungovernable, prey to constant deforestation, encroaching farmland, theft of cultural treasures and plunder of archaeological monuments. CONAP's influence was reduced and falsely perceived by the inhabitants as 'the enemy'. Following concession grants to organized groups to delegate and share administration of the Multiple Use Zone, within another five years, the majority of concessions had been granted, ACOFOP had been created, and in conjunction with CONAP and international aid agencies, the MBR had improved economically and socially. The basic terms and clauses of the concession contracts, however, must remain guarded by relevant agencies, constantly seeking a balance between development and conservation.

When integrated resource management is practiced, utilizing lesser-known species and NTFPs, pressures on mahogany and cedar are reduced.

Concessionaires have a right and a duty to practice integrated management of the resources granted them. However, during the first decade of forest management, profits were based almost exclusively on mahogany and cedar. This attitude prevailed until the mid-nineties, progressively degrading the forest resource through unsustainable and sometimes illegal practices. FORESCOM's incursion into value-added secondary species as well as the efforts of xate

processors towards direct exportation led to diversification.

Preliminary studies based on satellite images have shown that in the past five years the concessions have seen a significant amount of regeneration, a product of the vitality of many native species but also good management and silviculture practices. These studies also illustrate how primary, secondary and tertiary roads and landings facilitate regeneration of mahogany as a pioneer species of high commercial value.

Since 2005, a more localized management of NTFPs has been encouraged. This activity was formerly dominated by contractors and local middlemen who had no relation to the forest concessionaires. Current management of xate and other resources affords the concessions and FORESCOM greater comparative advantages through increased employment. This has led to more personnel in the area and improved surveillance and protection of natural and cultural resources, as well as increased sales to certified NTFP markets through FORESCOM.

In sum, integrated management of natural resources in the MBR by the concessionaires and FORESCOM is leading to greater income and employment opportunities. Increased value-added activities for timber and NTFPs have enabled greater community control over the value chain of forest products, from planning to marketing. It is hoped that with this case study, the potentials for forest enterprise development that have been realized in the Petén can be adapted and applied in other regions of Latin America and the world.

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