



# Forest concessions in Petén, Guatemala

## A systematic analysis of the socioeconomic performance of community enterprises in the Maya Biosphere Reserve

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### Key messages

- Community enterprises that manage forest concessions in the Multiple Use Zone (MUZ) of the Maya Biosphere Reserve (MBR) in Petén, Guatemala, generate environmental benefits for society and socioeconomic benefits for local communities in return for rights to use and manage resources in the MUZ.
- Along with the documented evidence of environmental impacts, the results of this analysis suggest a positive relationship between socioeconomic progress (income, investments, savings, capitalization of community enterprises as well as asset building at household and enterprise level) and conservation of the areas under concession (deforestation rates close to zero in active community concessions).
- Forest income, its reinvestment, and access to local and external financing have allowed the community enterprises to diversify activities, generate higher added value, develop new products and insert them into value chains of timber and non-timber forest products.
- The combined evidence of the community concessions' environmental and socioeconomic performance makes a strong case for concession renewal, which is due over the next few years.
- The enabling conditions for the management of the concessions by community forest enterprises have improved over the past two decades and provide lessons for strengthening governance in other zones of the MBR and elsewhere in Latin America and beyond.



## Introduction



**Photo 1. Sorting xate palm fronds in a storage room of a community forest enterprise. (Photo by Aldo Rodas).**

This summary document synthesizes the main findings of a systematic analysis of the socioeconomic performance of community forest enterprises (CFEs) in the Maya Biosphere Reserve (MBR) in Petén, Guatemala.<sup>1</sup> The study was led by Bioversity International and carried out between 2014 and 2018, with support from the project Climate, Nature and Communities in Guatemala (CNCG) of USAID, and the Center for International Forestry Research (CIFOR), in close collaboration with the National Council of Protected Areas (CONAP), the Association of Forest Communities of Petén (ACOFOP) and local nongovernmental organizations (NGOs). The study covers 12 CFEs that between 1994 and 2002 were granted community forest concessions in the Multiple Use Zone (MUZ) of the MBR by CONAP. The CFEs function as legal representatives of community-based organizations, with the right to use and manage resources in the concessions. These were granted under the condition that the CFEs obtain forest certification under the scheme of the Forest Stewardship Council (FSC) within three years of the start of the concession contract. Currently, of the 12 community concessions, 9 are active, as CONAP terminated the contract for 2 and suspended the management plan of another in 2009, due to noncompliance with the stipulations of their contracts. The concessions were granted for a 25-year cycle, with the possibility of extension. According to CONAP's Rules for the Granting of Concessions (1998, Art. 41), "the term of a concession may be extended, in all or part of the concession area, by means of an application filed by the interested party two years before

the expiration of the contract, and shall be recognized by CONAP as long as the concessionaire has satisfactorily complied with the terms of the current concession."

Given that most community concessions will soon reach the end of their term, this summary document provides evidence on the socioeconomic performance of the CFEs to inform the deliberation processes on the future of the community concessions.

The scientific study of the 12 community concessions and the associated CFEs was based on an adaptation of the 5Capitals methodology developed by Donovan and Stoian (2012), including a gender lens, and consisted of three phases:

1. **Context analysis**, with emphasis on the legal-political framework governing the management of community concessions, institutional aspects related to forest certification, value chains of major timber and non-timber forest products (NTFPs) as well as interventions by government agencies and NGOs with regard to the concessions, CFEs and value chains. The analysis was based on a review of scientific and grey literature (e.g. reports from organizations, projects and the certifying body) as well as 35 interviews with key informants, including representatives of governmental and nongovernmental organizations, key actors in the main value chains and researchers with experience in the field.
2. **Enterprise assessment**. Of the 12 CFEs that originally signed a community concession contract, the socioeconomic performance of the 9 active CFEs was analyzed with emphasis on the period from 2012 to 2016. The study of the CFEs that managed the three currently inactive concessions focused on the five years preceding the dissolution of the concession contract (two cases) or the suspension of the management plan (one case), i.e. 2004–2008. For the assessment, interviews were conducted with the leaders of the nine active CFEs and the ex-leaders of two inactive CFEs. In one case, the entire resident population was evicted from the concession area, and it was not possible to interview the former leaders of the CFE, but, as in the other cases, secondary information was analyzed and key informants were interviewed to reconstruct the process as well as possible.
3. **Household survey**. A total of 292 households associated with the CFEs were interviewed. In the case of the active CFEs, 30 households per enterprise were selected at random, except in one case where the total number of members did not exceed 21 and where one household was unwilling to participate in the interview. In the case of the two inactive CFEs for which ex-members could be identified, located and were willing to participate, 32 households were interviewed. For the CFE operating the concession for the area that was subsequently evicted, it was not possible to interview ex-members. Where appropriate and feasible, specifically in concessions with resident populations, some non-member households were also interviewed.

<sup>1</sup> For the full report, see Stoian D, Rodas A, Butler M, Monterroso I and Hodgdon B. 2019. *Forest concessions in Petén, Guatemala: A systematic analysis of the socioeconomic performance of community enterprises in the Maya Biosphere Reserve*. Nairobi, Kenya, Bioversity International; CIFOR; Rainforest Alliance; World Agroforestry.



Photo 2. Focus group with the board of directors of a community forest enterprise. (Photo by Aldo Rodas).

## Context analysis

According to the Master Plan for the Maya Biosphere Reserve (CONAP 2001), the MBR was created with the objectives of “conserving biodiversity; maintaining the ecological balance of the MBR as part of the *Selva Maya*; conserving the cultural heritage and using it appropriately; as well as managing and using natural resources and the cultural heritage sustainably, through the participation and support of society.”

In terms of achieving the environmental objectives, there is a significant difference among the MBR zones, as shown by a study on deforestation rates between 2000 and 2013 (Hodgdon et al. 2015). In the nine active community concessions, the annual deforestation rate has been low (0.1%), while it has been higher in the core zone (1.0%), the three inactive concessions (1.8%) and the areas without concessions in the MUZ (2.2%). The highest annual deforestation rate of the MBR was observed in the buffer zone (5.5%).

Forest certification under the FSC scheme has played a key role in monitoring the environmental performance of CFEs, providing technical guidance based on compliance requirements, following up with CFEs and facilitating access to markets for certified timber and NTFPs such as xate (*Chamaedorea* spp.). Given the inclusion of mahogany in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), forest enterprises in Petén have a competitive advantage since they can supply the international market with certified mahogany.

The legal entities of the CFEs reflect the full legal spectrum available for this type of enterprise in Guatemala: association, cooperative, civil society and corporation. The legal entity has important implications for the performance of the enterprises, particularly in terms of profit orientation,

objectives, entry procedures for prospective members, creation of reserves and distribution of profits. The key informant interviews showed that the selection of the legal entity was not the result of an in-depth analysis of the respective advantages and disadvantages of each of the possible set-ups, but rather depended on the advice given by NGOs available at the beginning of the concession process. Each of the main NGOs at that time promoted a particular legal entity, so much so that a mapping of the legal entities reflects each NGO's area of influence in the late 1990s and early 2000s.

Between 1990 and 2000, international cooperation and development agencies, in collaboration with local NGOs, provided technical and financial assistance in support of the implementation of the Master Plan for the Maya Biosphere Reserve and the strengthening of the CFEs, with an investment of more than USD 150 million. While covering all areas of the MBR, this support was instrumental in strengthening the technical capacities for forest management in the MUZ, wood processing, CFE administration and, in general, the community concessions. In recent years, this support has decreased, with possible implications for further development of CFE capacities and of their environment.

Based on current dynamics, it is observed that conflicts of interest between diverse key actors and stakeholders in relation to the MBR resources remain and have, in some cases, become aggravated. They involve individuals and organizations with an interest in cattle ranching, tourism development, oil exploitation and illicit activities such as drug trafficking. Despite these limitations in terms of governance, the enabling conditions for the management of the community forest concessions and their environmental and socioeconomic performance have generally improved over the past two decades, as illustrated in Table 1.

**Table 1. Enabling conditions for the management of community forest concessions in the MUZ.**

Enabling conditions	Today	Prior to start of the concessions (before 1994)
Tenure security ( <i>de jure</i> )	Yellow	Red
Tenure security ( <i>de facto</i> )	Yellow	Red
Sense of ownership over forest resources	Green	Red
Political and institutional support from government agencies	Green	Red
Guidelines for the management of timber and non-timber species based on technical criteria (e.g. growth rates and regeneration)	Green	Red
Forest certification (FSC)	Green	Red
Scientific evidence of the sustainability of timber harvesting with respect to species protected under CITES	Green	Red
Sense of ownership and level of capacity development for forest management and conservation	Green	Red
Technical services from government agencies	Yellow	Red
Technical services and advocacy from NGOs/projects	Green	Yellow
Access to working capital for timber extraction and wood processing	Yellow	Red
Availability of timber and NTFPs with high commercial value	Green	Green
Availability of forest products to meet basic needs	Yellow	Yellow
Access to markets for high-value timber species	Green	Yellow
Access to markets for lesser-known timber species	Yellow	Red
Access to markets for NTFPs	Green	Yellow
Complementarity/compatibility between timber and NTFP harvesting	Green	Yellow
Opportunities for women with respect to forestry activities and the management of community forest enterprises	Yellow	Red
Governance that mitigates external threats (outside the MUZ), such as forest fires, expansion of cattle ranching and illicit activities	Red	Red

Note: The colors indicate the status of the enabling conditions. Green: effective, highly available, advanced, well developed, highly functional; yellow: somewhat effective, existing, under development, somewhat functional; red: ineffective, unavailable, rudimentary, nonexistent, underdeveloped, dysfunctional.

## Community forest enterprise assessment

Given the different trajectories of the community concessions, we present the results of the analysis of the CFEs as they relate first to the active and then the inactive concessions.

### Active concessions

- In the nine active concessions, the CFEs have shown a process of growth, professionalization and consolidation. This progress is reflected in increased membership; managers with enhanced business management skills; appropriate institutional arrangements within and around the CFEs, including their own management systems; and growth in the quantity and values of their assets, volumes and values

of timber and NTFP sales, and benefits perceived by CFE members and local communities.

- The natural capital of the nine active CFEs is significant thanks to the extent of their concessions (352,089 ha in their entirety, equivalent to 44% of the MUZ area), with a production forest area of 193,017 ha (55% of the area under concession). The active concessions vary considerably in terms of their overall area (ranging from 19,390 to 83,558 ha) and the share of production forest (ranging from 8,823 to 44,833 ha, equivalent to 19%–86% of the concession area). This affects the availability of forest products with commercial value. From 1994 to 2017, the nine active CFEs extracted between 16,044 and 31,737 m<sup>3</sup> of wood, with an extraction rate between 1.1 and 3.4 m<sup>3</sup> per ha of logged area. Despite the richness of species, a high dependence on mahogany (*Swietenia macrophylla*) persists. Over the same period, mahogany contributed



**Photo 3. Wood processing in a community forestry enterprise. (Photo by Dietmar Stoian).**

between 34% and 69% of the total volume extracted (varying between 7,607 and 15,632 m<sup>3</sup> per CFE).

- Human capital for business management shows a clear trend toward professionalization thanks to the engagement of managers with managerial training and specific capacity building processes. All active CFEs are now run by trained managers and have arrangements in place that support management processes. Human capital for timber extraction and primary wood processing has also increased. For secondary wood processing, it has been built in FORESCOM S.A., a second-tier CFE representing six out of the nine CFEs operating active concessions.
- The physical capital of the nine active CFEs reflects significant investments in machinery, equipment and tools for logging and wood processing (all active CFEs run their own sawmills), infrastructure (buildings, sheds), and vehicles (trucks, skidders, pickup trucks). Adding the value of land and farms that some have acquired outside the MUZ, the value of physical assets across the nine active CFEs totals GTQ 42.9 million (≈USD 5.9 million), ranging from GTQ 800,000 (≈USD 110,000) to GTQ 11.9 million (≈USD 1.6 million) per CFE.
- Growing social capital for collective action in Petén is reflected in the increase in membership of active CFEs by 26% (from 932 in 2000 to 1,175 in 2017) as well as in the development of umbrella organizations for political advocacy and the defense of community rights during critical times (e.g. ACOFOP). Similarly, this is reflected by secondary wood processing and identification of markets for lesser-known species (FORESCOM S.A.). Social capital has also been built in the form of lasting business relationships with buyers of certified timber and NTFPs.
- In terms of financial capital, the nine active CFEs report a total gross income from timber sales of GTQ 187.3 million (≈USD 24.7 million) for the

period 2012–2016, with values ranging from GTQ 8.2 million (≈USD 1.1 million) to GTQ 33.7 million (≈USD 4.4 million) per CFE. In the same period, gross revenue based on mahogany sales amounted to GTQ 139.1 million (≈USD 18.3 million), equivalent to 74% of total gross revenue from timber sales (ranging from 53% to 89% among active CFEs). With an average value generated by mahogany of GTQ 4,046/m<sup>3</sup> (≈USD 533/m<sup>3</sup>), the performance of the CFEs varies within a range from GTQ 2,213/m<sup>3</sup> to GTQ 5,156/m<sup>3</sup> (≈USD 292–679/m<sup>3</sup>). This variation reflects differences in terms of the quality of raw material, sawmilling efficiency and, albeit to a lesser extent, bargaining power. Considering differences in membership among the nine CFEs, the gross revenues generated through timber sales varied between GTQ 84,431 (≈USD 11,124) and GTQ 983,266 (≈USD 129,548) per CFE member over the period 2012–2016. Profits resulting from these sales – along with better access to different forms of credit and financing appropriate for the community enterprises – have allowed a process of capitalization of the active CFEs. Most CFEs have improved their ability to mobilize working capital for their operations, and external financing allows them to further consolidate in the medium term. In addition, some CFEs have created internal financing mechanisms for small-scale start-ups at member and enterprise levels, such as carpentry and handicrafts, and for granting microcredits for other productive activities.

- In terms of gender, 68% of the membership is made up of men and 32% of women. In two CFEs, female membership reaches almost 50%, while in the other CFEs it varies from 14% to 36%. At present, the boards of directors of the nine active CFEs are in seven cases chaired by men, while two are chaired by women. Of the board members, 60% are men and 40% women. These differences reflect that some CFEs have explicit rules for involving women in membership and decision-making spaces.

### ***Inactive concessions***

- Compared to the nine active CFEs, the natural capital of the three inactive CFEs is more limited given their overall concession area (47,923 ha, equivalent to 6% of the MUZ area) and area under production forest (32,714 ha, equivalent to 68% of the concession area). The inactive concessions vary in terms of their total concession area (from 7,039 to 22,067 ha) and production forest area (4,804 to 15,867 ha). Another important difference is the lower availability of high-value timber species. As the forests had been “mined” for precious woods, particularly mahogany, the economic viability of the three CFEs had been compromised since the start of the concessions. During their years of operation (1994–2008), each of the three CFEs extracted between 3,924 and 6,995 m<sup>3</sup> of wood, equivalent to 1.2–3.7 m<sup>3</sup> per ha of logged area. During the same period, mahogany extraction varied between 655 and 2,138 m<sup>3</sup>, equivalent to 14%–54% of the total volume extracted.

- Between 2006 and 2008, the low availability of high-value timber species impeded the generation of significant income, which strongly impacted the benefits perceived by the CFE members and the enterprises' capacity for capitalization. With few incentives to contribute to CFE development and to pursue livelihoods that would replace their previous agricultural activities, CFE members began to lose faith in the organizational process and to seek economic alternatives. Between 2007 and 2008, a growing number of CFE members, along with other residents of the concession areas, including external actors, sold land within the concessions. This implied a major breach of the concession contracts as state property was concerned. This process accelerated the loss of governance and severely weakened the CFEs.
- The infringements, the loss of governance structures and, eventually, the ungovernability of the three concessions led to the withdrawal of forest certification (starting in 2007), the suspension of management plans (starting in 2008), the stipulation of conditions and, due to noncompliance, the termination of concession contracts in two cases (2009).
- In 2009, in response to the incidents in the three concessions, the Government of Guatemala mobilized the political support of key public bodies (CONAP, Ministry of the Interior, Ministry of Defense, Nature Protection Division) and the support of some NGOs to intervene in a coordinated and articulated way to recover the areas. Eventually, the remaining population was evicted from one concession, and soldiers and park rangers were put in place to prevent the re-entry of people and livestock. In the other two concessions, a resident population is maintained, currently without legal options to utilize the forest resources.
- The eviction in one concession helped stabilize the forest cover between 2010 and 2013 (82%), and since then a slight recovery has been observed thanks to natural regeneration (84% in 2016). The costs associated with this intervention have

been considerable, exceeding GTQ 11 million (≈USD 1.6 million) from March 2010 to July 2018. In the remaining two inactive concessions, forest cover continues to decline (down to 55% and 74% in 2016).

### **Active and inactive concessions**

At present, nine CFEs continue to operate in an area of 352,089 ha, while the three inactive CFEs operated in an area of 47,923 ha, equivalent to 44% and 6% of the MUZ area, respectively. In addition to the benefits generated for their members and the local communities (see below), the 12 CFEs paid approximately GTQ 15 million (≈USD 2.1 million) to CONAP between 1994 and 2018 for concession fees, a 10% levy on the value of standing timber (from the annual operating plans), permits and licenses. This amount does not account for the financial contributions to the State as it does not include the payment of VAT on purchases and sales, nor the contributions that some CFEs make at the municipal level.

### **Household assessment**

The assets available in the households of CFE members vary widely between and within CFEs. There are also differences within households in access to and control over assets between men and women, and between the generations of parents and youth. In general, men have better access to assets than women or youth, but both of the latter are often involved in major household decision making.

- Human capital of the member households has been strengthened in relation to timber and NTFP management as well as non-forest activities thanks to the training by various agencies and organizations and the reinvestment of forest income in education and health of household members. About 20% of CFE members report not having had the opportunity for formal education, while 100% of their children



Photo 4. Collector of xate palm fronds in a forest camp. (Photo by Aldo Rodas).

are benefitting from some form of formal education. The likelihood children now attend high school is significantly higher than it was in their parents' generation. Investments in education come from CFEs in the form of scholarships and, in many cases, from the households themselves based on forest income. The average age of CFE members is 50 years, with averages of up to about 60 years in some CFEs. The CFE leaders show a growing awareness of the need to rejuvenate CFE membership and have, in some cases, established rules for older members to be replaced by younger household members. Unlike other parts of Guatemala and Central America, outmigration of households or household members is not very marked, as reflected in a low importance of remittances for household income (2% on average).

- Social capital of the households is most pronounced in terms of their CFE membership, which increased by 26% between 2000 and 2017, with significant numbers of women joining and contributing to greater gender equity in the active CFEs. Parallel to the consolidation of active CFEs, grassroots organizations in the concessions with resident communities and in some nonresident communities have been strengthened, contributing to the increase of social capital among CFE member households.
- Income generated through forest activities is of paramount importance for financial capital. On average, forest income contributes 38% of household income in the nine active CFEs, followed by petty trade and other sources. Household income is supplemented by income from pensions, agricultural activities and remittances. Forest income comes from employment associated with the extraction and processing of timber and NTFPs and, in CFEs constituted as civil societies, from dividends paid at the end of the year. In the nine active CFEs, average forest income per household varies from GTQ 3,500 to GTQ 75,000 (≈USD 473–10,135) per year, allowing most households to move out of poverty or at least extreme poverty. In the latter cases, forest income is reinvested to cover basic needs (food, health), while in cases where forest income is higher, significant reinvestments are observed in physical assets (housing, machinery, equipment, vehicles), children's education and land purchases (in the buffer zone). In inactive concessions with resident populations (two cases), the absence of forest income is strongly reflected in poverty levels that are higher than those observed among active CFE members.

## Main findings and implications

- The community forest concessions in Petén represent a model of forest governance that for more than two decades has been the main pillar for forest

conservation in the Multiple Use Zone (MUZ) of the Maya Biosphere Reserve, with important benefits for forest communities, the Petén region and Guatemalan society.

- In the nine active community concessions, the recognition of forest resource use and management rights has allowed communities to generate positive social, economic and environmental impacts. These concessions, which together occupy more than 350,000 ha (44% of the MUZ area), show deforestation rates close to zero (0.1% per year), well below the deforestation rates in the core zone (1.0% per year) and buffer zone (5.5% per year) of the reserve.
- Deforestation rates in the three inactive concessions, which occupy less than 50,000 ha (6% of the MUZ area), have also been high (1.8% per year), reflecting noncompliance with the stipulations of the concession contracts and the management plan, which is why CONAP cancelled the contract (two cases) and suspended the management plan (one case) in 2009. At the same time, the deforestation rate in the MUZ in areas not under concession is even higher (2.2% per year).
- The three inactive concessions faced several conditions that put the CFEs managing them at a disadvantage from the very beginning: 1) low availability of high-value timber species, such as mahogany or tropical cedar; 2) population composed mostly of recent migrants, with little experience in forest product extraction and livelihoods mainly based on agricultural activities; and 3) discontinuity of technical assistance that was initially provided by NGOs and development projects.
- With a view to the future, it will be important to adapt the strategies for the recovery and rehabilitation of the inactive concessions, as well as the allocation of areas currently without concessions, to the livelihoods of the populations concerned and the limitations in the availability of high-value timber species and NTFPs. Such strategies would include options that are complementary to forestry activities to ensure sustainable livelihoods over the long run, with specific opportunities for women and youth.
- The nine active concessions provide clear examples of viable options for forest management and conservation in the future, given the CFEs' capacity to adapt to dynamic changes, for example through the diversity of legal entities (civil society, association, cooperative) and management models as well as their capacity to invest in different assets and their multiplier effects beyond the CFEs and their members.
- The lessons learned will be useful when analyzing the governance models established for other zones in the reserve, particularly the buffer zone, to identify favorable mechanisms that guarantee the integrity of the forest from a territorial perspective.

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