



## 4.4 The GuateCarbon initiative and REDD+ readiness in Guatemala

BENJAMIN D. HODGDON, JEFFREY HAYWARD and OMAR SAMAYOA

### Community management of forests

A growing body of research suggests a marked trend towards increased management authority for local communities over forests. White and Martin (2002) and Sunderlin, Hatcher and Liddle (2008) find that as much as 27% of forests are under community control, with indications that this number will increase.

The significance of this trend has taken on increased importance as the discourse develops around REDD+. Although many people note the potential for REDD+-driven policy reform to leverage significant gains for local communities (e.g., Westholm et al. 2011), others have sounded the alarm that REDD+ could harm local interests — especially indigenous groups whose customary tenure is unrecognized — if the national systems that are developed favour state control (Dooley et al. 2011).

Given the mounting evidence that community-managed forests can outperform protected areas in conserving forest cover and associated biodiversity (Porter-Bolland et al. 2012; Bray et al. 2008; Hayes and Ostrom 2005), it is clear that community forests represent an important strategy for REDD+.



AS ONE OF THE ONLY SUCH PROJECTS IN THE WORLD THAT IS BUILDING ON COMMUNITY-BASED PRODUCTION FORESTRY

AND ENTERPRISE, GUATECARBON IS GENERATING IMPORTANT LESSONS WITH GLOBAL SIGNIFICANCE.

### The Maya Biosphere Reserve

The experience of forest communities in the Maya Biosphere Reserve (MBR) in the Petén region of northern Guatemala carries tremendous global importance in this context. Over the past fifteen years, nearly 500,000 hectares (ha) of lowland tropical forest have been brought under sustainable management. The majority of it is controlled by communities who have been granted forest concessions (Figure 1).

As of January 2012, more than 482,000 ha of the forests in the MBR were certified to Forest Stewardship Council (FSC) standards. Deforestation rates in certified forest concessions are some twenty times lower than in adjacent protected areas (Hughell and Butterfield 2008). At the same time, forest management and enterprise development has

---

**Benjamin D. Hodgdon** and **Jeffrey Hayward** work for Rainforest Alliance; and **Omar Samayoa** works for the Inter-American Development Bank.

provided a major boost to local economies, generating thousands of jobs and increasing household incomes (Rosales 2010).

Despite the successes of community forest management in the Petén, there are very real threats to using this model for forest conservation over the long term. The forest enterprises built up by concessionaire communities are still struggling to turn profits sufficient to outweigh mounting pressure for conversion to other land uses. Part of this is due to social and organizational problems. Other critical barriers are issues familiar to community forest operations globally: high management costs, low productivity, weak markets and limited access to finance. Lack of access to financing is commonly cited by producers as the most important constraint to achieving competitiveness.

### GuateCarbon

An initiative called GuateCarbon is underway in the MBR. It is led by Rainforest Alliance, in partnership with forest concessions and a range of local and international groups. The goal is to develop a sub-national REDD+ project as a means of securing additional financing for forest enterprises. The strategy uses enterprise development and certification as the basis for the generation of carbon credits, garnering access to the voluntary market through compliance with international standards of best practice.

GuateCarbon follows a standards-based approach that builds on FSC and incorporates the protocols of the Climate, Community and Biodiversity Alliance (CCBA) and the Verified Carbon Standard (VCS).<sup>1</sup> The project will cover an area of approximately 470,000 ha of forest and has an estimated potential to offset 800,000 tonnes CO<sub>2</sub>-equivalent (tCO<sub>2</sub>e) per year. Assuming a market price of US\$ 3–5<sup>2</sup> per tCO<sub>2</sub>e and applying a conservative discount,<sup>3</sup> the project could generate around US\$ 1–1.5 million per year — around a third of the amount typically generated annually through sales of forest products. This would complement forest enterprise activities in the MBR, adding critical top-layer financing to secure and maintain the competitiveness of community forest concessions.

As a sub-national project being developed in parallel with Guatemala's national strategy for climate change and REDD+, the GuateCarbon pilot is a valuable example for counterpart government agencies looking for field-based experience to inform policy. At the same time, as an early example of REDD+ project development for the voluntary market —

**Figure 1. The Maya Biosphere Reserve, Petén Department, Guatemala**



and as one of the only such projects in the world that is building on community-based production forestry and enterprise — GuateCarbon is generating important lessons with global significance for civil society groups, development practitioners, donors, academics and private sector investors.

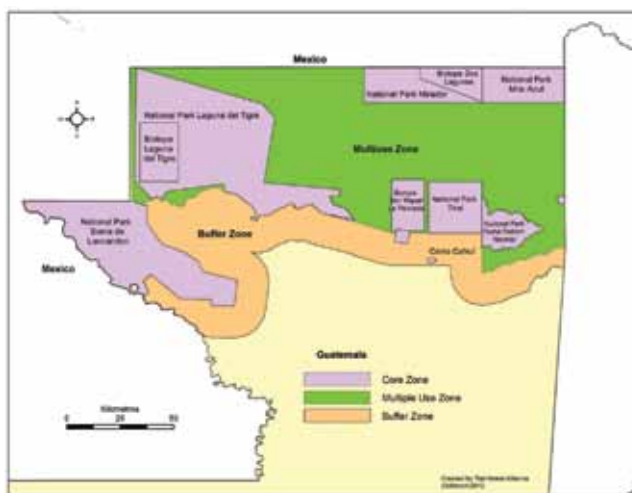
### The Petén and the Maya Biosphere Reserve

The Maya Biosphere Reserve (MBR; Figure 2) comprises 2.1 million ha of broadleaf forest that are home to globally important biodiversity (WCS 2009). Established by the

Guatemalan government in 1990, the MBR consists of a core zone of protected areas, a multiple-use zone where controlled forest harvesting is permitted, and a buffer zone at the southern edge of the reserve that allows for agricultural use (Table 1).

**Figure 2: The Maya Biosphere Reserve and main use zones**

Source: National Commission for Protected Areas (CONAP)



**Table 1. Use zones of the Maya Biosphere Reserve**

Use zone	Area (ha)	% of reserve land area
Core zone (strict protection)	816,392	39
Multiple-use zone	797,868	38
Buffer zone	466,038	23
Total	2,080,298	100

The multiple-use zone covers nearly 40% of the MBR. It is made up primarily of forest concessions allocated to a host of local communities and two private companies for sustainable forest management. These concessions are the central focus of this paper.

### Creation of forest concessions

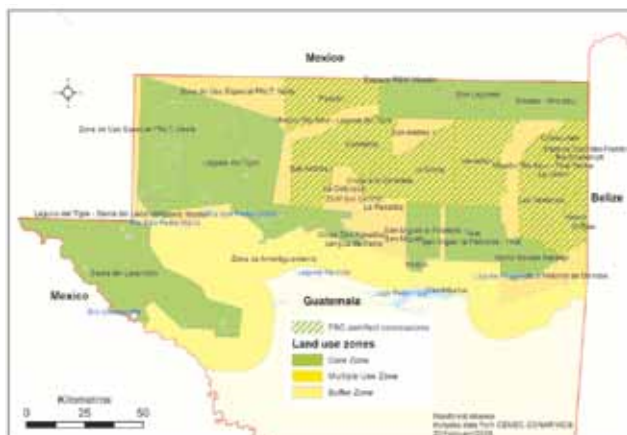
The first few years of the MBR saw frequent demonstrations by communities demanding access to forest resources (Cortave 2003). Such movements coalesced with the formation of the Association of Petén Forest Communities (ACOFOP) in 1995 (Gómez and Méndez 2004). After a protracted period of negotiation between ACOFOP and the government agency in charge of the reserve (CONAP), it was ultimately agreed that communities could be granted forest concessions, which would be managed in accordance with management plans. Such concessions grant communities exclusive rights to resources in the concession for a period of 25 years (Gretzinger 1998).

During the period 1994–2002, 12 community concessions were eventually approved, plus two industrial concessions run by private-sector firms. These concessions collectively cover more than 530,000 ha, more than 25% of the total MBR area (Figure 3).

The strong presence and assistance — by both local and international NGOs — in organizing communities, undertaking forest management planning and securing approval of the community forest concessions cannot be understated (Nittler and Tschinkel 2005). Moreover, the financial and political backing of major donor agencies such as USAID, the Interamerican Development Bank and *Kreditanstalt für Wiederaufbau* (KfW), as well as

charitable organizations like the Ford Foundation, was central in the establishment and approval of concessions. One estimate puts USAID support alone to the Petén at US\$ 135 million between 1990 and 2006 (Stoian, Rodas and Donovan 2007).

**Figure 3. The forest concessions of the MBR**



### Impacts of the concessions: ten years on

As Radachowsky et al. (2012) recently found — backing up detailed analyses by a host of other authors — it is clear that the concessions have generated significant socio-economic and environmental benefits. Total sales to date by all concessions exceed US\$ 30 million and average annual revenue currently exceeds US\$ 4 million. In 2003, income from sawn wood was US\$ 2.8 million; by the end of 2008, this figure had more than doubled to US\$ 5.8 million (Rosales 2010). Fundamental improvements in cost control, milling efficiencies, value-added processing and income from exports of lesser-known species and NTFPs have also been achieved.

At the household level, impacts are harder to measure. One estimate puts the number of permanent jobs generated by concession activities at more than 1,300 (Rosales 2010). Generation of temporary or seasonal jobs — in forest operations, for example — is even more significant, with some 5,000 such jobs created each year (Rosales 2010). Nearly all these positions offer salaries higher than the national minimum wage. Significantly, many concessions also dedicate a share of forestry profits to social development projects in areas such as basic health care and education, and to environmental education and forest protection measures. Investment in such projects averages some US\$ 200,000 per year. All this has led to important progress in the building of social capital in concession communities, although deficiencies such as petty corruption and a lack of transparency continue to hamstring some of the operations.

Meanwhile, evidence suggests clear success with respect to forest conservation. Indeed, the concessions have outperformed neighbouring protected areas in conserving forest cover. An analysis published in 2008 found that during 2002–07, the average annual deforestation rate for the entire MBR and the core protected areas was twenty times higher than that of the FSC certified concessions (Hughell and Butterfield 2008; Figure 4).

Significant threats remain, however. First, there are some fundamental social-

organizational issues that must be resolved if the concessions are to be sustained.

Improvement of transparency in management, and the empowerment of a representative yet specialized team of professionals to permanently manage operations is essential.

Second, there is a need for production diversification. Once reliant almost exclusively on the production of mahogany and Spanish cedar, the concession managers have long appreciated the need to find markets for a wider array of timber species, as well as non-timber forest products. Though significant advances have been made, particularly with *xate* palm, even more diversification will be necessary in coming years, given market dynamics and forest management goals.

Third, business and marketing capacities among the community enterprises need continued improvement. The formation of FORESCOM — a second-tier enterprise formed by eleven of the community concessions, aimed at achieving economies of scale — training of business staff and improved market access, especially for lesser-known species, are important steps forward. However, these improvements have relied on significant donor investment and technical assistance from NGOs. Developing these capacities both within FORESCOM and among the community concessions is critical.

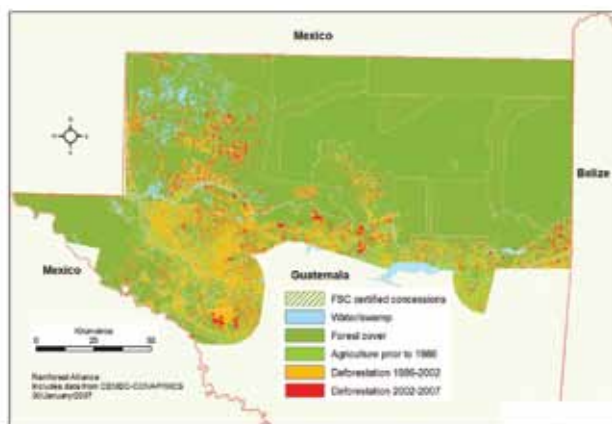
Without such improvements, the concessions face an uncertain future. Particularly troubling is the increase in land conversion in the MBR linked to narco-trafficking. Such threats form the basic argument for adding a new layer of diversification to the income of forest concessions in the MBR, that of payment for environmental services (PES).

### The GuateCarbon project

Approximately 470,000 hectares of forest in the MBR's multiple-use zone are included in the project area. They have the estimated potential to offset 0.8 million tonnes CO<sub>2</sub>-e per year from avoided deforestation, or approximately 24 million tonnes CO<sub>2</sub>-e over

**Figure 4. Forest cover and deforestation in the MBR, 1998–2007**

Source: Hughell and Butterfield 2008



a 30-year project cycle. Preliminary estimates suggest that successful implementation of the project will result in payments on the order of US\$ 1–1.5 million per year to complement forest enterprise activities in the MBR. Such payments would benefit more than 5,000 families in the certified concessions through increased dividend payments, improved business competitiveness and better conservation of forest resources. In addition, it is estimated that about 1,000 forest-dependent families will benefit through the creation of new jobs for local workers, mainly in the realm of forest monitoring, control and administrative functions related to project management.

The Rainforest Alliance is providing support to government bodies, local civil society groups and the two private concessionaires in each of the key steps involved in bringing carbon in MBR certified forests to the market while ensuring that mechanisms are established to administer revenues generated from carbon credit sales. Project development activities include: (a) analysis of the legal and regulatory framework necessary to establish carbon rights and undertake a REDD+ project; (b) elaboration of a sub-national baseline; (c) definition and application of methodologies to quantify carbon stocks and emissions reductions; (d) design of an equitable benefit-sharing and reinvestment mechanism; and (e) preparation of a project design document. These preparation activities are being designed in line with accepted international standards (e.g., CCB and VCS).

Several important technical steps have been concluded. A sub-national assessment of baseline emissions has been completed. The baseline was developed using CONAP forest cover data from 2001, 2006 and 2010, with reference to variables such as roads, population density, markets and development plans, in order to model deforestation over the coming 20 to 30 years.

At the same time, carbon stocks were assessed. The resulting baseline — covering nearly 40% of Guatemala — serves as the reference point for assessing performance in stemming deforestation and degradation in the MBR. Based on these outputs, and on community consultations, the first draft of a Project Design Document (PDD) for GuateCarbon has been completed. The PDD — aligned with CCB and VCS standards — will be the key reference document during project validation and execution.

The importance of partnerships — with community stakeholders, local and international NGOs, government, and international donors — in producing the PDD was essential. CONAP's GIS unit was critically important in providing information for establishing the baseline, including forest cover maps and data for carbon stock estimation. This significantly reduced the costs for project proponents and secured greater collaboration with government partners.



Through such close collaboration with national stakeholders, GuateCarbon has sought to both build capacities and inform the national-level policy dialogues on REDD+. The

key government agencies involved with the project are also charged with the design and ultimate implementation of a national REDD+ scheme for Guatemala. By developing a sub-national project over an important area of the country, GuateCarbon is thus generating important early lessons and highlighting areas for policy development as part of Guatemala's REDD+ readiness plan.

For example, significant work has been undertaken at the national level to address legal and regulatory issues surrounding the benefits from carbon sales, chief among them, ownership of forest carbon. After protracted discussion informed by legal analyses undertaken by the Rainforest Alliance, a trust fund mechanism — termed a Special Purpose Vehicle — is being designed for the management of payments generated through the sale of carbon credits. This mechanism will be used to divide up payments generated from the sale of carbon credits among government agencies, concessions and project administration units. End uses of carbon payments will include dividend payments, monitoring and reporting work, verification audits and forest management expenses.



The position of community stakeholders and the Rainforest Alliance is that since REDD+ is ultimately designed to compensate for activities to reduce emissions — not to simply pay for carbon stocks — the bulk of the carbon payments should go to those undertaking sustain-

able forestry, i.e., the communities and concessions. Some government stakeholders initially viewed the issue differently, believing that since the forest belongs to the state, government agencies should receive and administer carbon payments. After more than a year of discussion, the Government of Guatemala has formally agreed to transfer the rights to credits for emissions reductions from avoided deforestation to the forest concessions.

The stumbling block to agreement on this central issue was the perception by government lawyers that ceding the state's rights to carbon — to any entity — would equate to ceding rights to territory, thus undermining state sovereignty. This belief led to the temporary rejection of any proposal put forward by stakeholders to address carbon rights. After a protracted period of technical workshops and meetings to clarify the difference between rights to carbon and rights to emissions reductions, the government agreed that rights to emissions reductions could be recognized as belonging to the concessions. The legal rationale for the decision rests with the *Protected Areas Law*, since the activities undertaken by the concessions to reduce emissions are aligned with its objectives.

The process of negotiation and resolution of carbon rights is highly significant given the uncertainties surrounding this issue in many tropical countries where REDD+ projects are under development. Typically, the language around such projects discusses "rights to carbon," which often generates tremendous opposition — not only by government, but by communities and other local stakeholders rightly concerned about the implications of

such projects on sovereignty, territorial or otherwise. In the case of GuateCarbon, redefining the term as “emissions reductions rights” clarified the issue for decision makers. It also aligned the language with existing law and avoiding the uncertain and possibly lengthy process of developing a new law, without undermining community interests.

Equally critical in the preparation process is the ongoing work at the community level to achieve Free, Prior and Informed Consent (FPIC) and establish social baselines to monitor socio-economic impacts during the life of the project. The Rainforest Alliance has developed a series of modules for climate and carbon education workshops that have been applied in the Petén communities, and work is ongoing with ACOFOP and other partners to secure and document local-level FPIC as part of the PDD preparation process. At the same time, the Rainforest Alliance worked at the international level with a number of partners — including CCBA, Flora and Fauna International and Forest Trends — to develop a social impact assessment manual geared specifically to carbon projects. It will be used to monitor change related to a number of key social and economic indicators over time.

In using such approaches to ensure FPIC and draft the PDD, GuateCarbon is emphasizing the importance of following a standards-based approach to project design. Building on the concessions’ history of compliance with FSC standards for forest management, the project has placed a high premium on following internationally accepted procedures. These procedures are designed to ensure that actions undertaken will result in long-term emissions reductions, and that payments received will be used equitably. Moreover, designing the pilot in line with CCB and VCS standards helps to ensure that the project will attract investors and garner a more secure market share. Indeed, several international firms have already expressed interest in investing in the project once the PDD is validated.

Given the advances of the project to date, and the growing trend of community-based forestry as the basis for REDD+ globally, GuateCarbon is generating important lessons for the international community around the steps to developing a REDD+ project based on community production forestry.

## Endnotes

1. See: [www.climate-standards.org](http://www.climate-standards.org) and [www.v-c-s.org](http://www.v-c-s.org).
2. A recent analysis by Forest Trends’ Ecosystem Marketplace found average reported price across the forest carbon market in 2010 to be US\$ 5.5/tCO<sub>2</sub> (Diaz, Hamilton and Johnson 2011).
3. The discount rate accounts for time in estimating the value of goods and services. For revenue analyses covering multiple years, the value of future profits needs to be discounted. Since a dollar today is worth more than a dollar tomorrow, a discount rate — typically tied to the interest rate on loans — is necessary in profit projections.

## References

- Bray, D.B., E. Duran, V.H. Ramos, J.-F. Mas, A. Velazquez, R.B. McNab, D. Barry and J. Radachowsky. 2008. “Tropical deforestation, community forests, and protected areas in the Maya Forest.” *Ecology and Society* 13(2): 56.
- Cortave, M. 2003. *La Experiencia de ACOFOP en Petén, Guatemala. Un Proceso arduo de gestión política*. San José, Costa Rica: CEDARENA-CICAFOC.



- Diaz, D., K. Hamilton and E. Johnson. 2011. *State of the Forest Carbon Markets 2011: From Canopy to Currency*. Washington, D.C.: Ecosystem Marketplace, Forest Trends.
- Dooley, K. T. Griffiths, F. Martone and S. Ozinga. 2011. *Smoke and Mirrors: A Critical Assessment of the Forest Carbon Partnership Facility*. Moreton in Marsh, U.K.: FERN and the Forest Peoples Program.
- Gómez, I. and V. Méndez. 2004. *Association of Forest Communities of Petén, Guatemala: Context, Accomplishments and Challenges*. Bogor, Indonesia: CIFOR.
- Gretzinger, S. 1998. Community forest concessions: an economic alternative for the Maya Biosphere Reserve in the Petén, Guatemala. In Primack, R., D.B. Bray, H. Galletti and I. Ponciano (eds.). *Timber, Tourists and Temples: Conservation and Development in the Maya Forest of Belize, Guatemala and Mexico*. Washington, D.C.: Island Press.
- Hayes, T.M. and E. Ostrom. 2005. "Conserving the world's forests: Are protected areas the only way?" *Indiana Law Review* 38(3): 595–617.
- Hughell, D. and R. Butterfield. (2008). *Impact of FSC Certification on Deforestation and the Incidence of Wildfires in the Maya Biosphere Reserve*. New York: Rainforest Alliance.
- Nittler, J. and H. Tschinkel. 2005. Community forest management in the Maya Biosphere Reserve of Guatemala: Protection through profits. Unpublished report submitted to USAID.
- Porter-Bolland, L., E.A. Ellis, M.R. Guariguata, I. Ruiz-Mallén, S. Nagrete-Yankelevich and V. Reyes-García. 2012. "Community managed forests and forest protected areas: An assessment of their conservation effectiveness across the tropics." *Forest Ecology and Management* 268: 6–17.
- Radachowsky, J., V.H.Ramos, R. McNab, E.H. Baur and N. Kazakov. 2012. "Forest concessions in the Maya Biosphere Reserve, Guatemala: a decade later." *Forest Ecology and Management* 268: 18–28.
- Rosales, A. (2010). *Rainforest Alliance technical assistance: Strengthening FORESCOM and the community forest enterprises of the Maya Biosphere Reserve, Guatemala*. New York: Rainforest Alliance.
- Stoian, D., A. Rodas and J. Donovan. 2007. Community Forest Enterprise Development in Guatemala: A Case Study of Cooperativa Carmelita R.L. In Donovan, J. (ed.). *Small and Medium Enterprise Development for Poverty Reduction: Opportunities and Challenges in Globalizing Markets*. Technical Series — Technical Meetings 12. Turrialba, Costa Rica: CATIE.
- Sunderlin, W., J. Hatcher and M. Liddle. 2008. *From Exclusion to Ownership? Challenges and Opportunities in Advancing Forest Tenure Reform*. Washington, D.C.: Rights and Resources Initiative.
- Westholm, L., R. Biddulph, I. Hellmark and A. Ekbohm. 2011. *REDD+ and Tenure: A Review of the Latest Developments in Research, Implementation and Debate*. Sida and the University of Gothenburg, Gothenburg, Sweden.
- WCS (Wildlife Conservation Society). 2009. *Best of the Wild: Wildlife Conservation Society and the Maya Biosphere Reserve*. New York: WCS.
- White, A. and A. Martin. 2002. *Who Owns the World's Forests? Forest Tenure and Public Forests in Transition*. Washington, D.C.: Forest Trends.