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Forest concessions in the Maya Biosphere Reserve, Guatemala: A decade later

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ABSTRACT

In the Multiple-Use Zone of Guatemala's Maya Biosphere Reserve, the usufruct rights to timber and non-timber forest resources were granted through concession agreements to 12 community organizations and two private timber companies in the late 1990s and early 2000s. After more than a decade, some concessions are successfully managing forests for multiple uses while others have had limited success or failed completely. This paper provides a management unit-based analysis and evaluation of the evolution of these forest concessions. First, we present a critical assessment of the current state of ecological integrity, socio-economic development, governance, and financing within each of the 14 forest concessions, using a series of quantitative and qualitative indicators. Next, we categorize the different trajectories that the concessions have experienced, and describe the key biophysical, socio-economic, and market events and drivers that may have influenced their outcomes. Lastly, we provide suggestions for the continued consolidation of multiple-use forest management practices in the Maya Biosphere Reserve, and draw out lessons for multiple-use forest management elsewhere in the tropics.

1. Introduction

In the past few decades, conservation activities have shifted radically from command-and-control strategies toward more inclusive, people-oriented philosophies. This shift was instigated on the one hand by the growing recognition that strict protectionism was in many cases failing, leading to a loss in ecological and institutional resilience (Holling and Meffe, 1996; Berkes, 2004). On the other hand, it was recognized that rural communities are often the most impactful and impacted actors within natural systems (Western and Wright, 1994; Folke et al., 2005). This widely observed "pathology of natural resource management" and a call for increased social justice led many to believe that incentive-based, participatory strategies were the optimal solution to human–environment conflicts (Ghimire and Pimbert, 1997).

In the 1980s and 1990s, integrated conservation and development projects (ICDPs), often taking the form of community-based conservation or community-based forest management, were extensively promoted as one such way to achieve conservation objectives while improving the livelihoods of local stakeholders (Schelhas et al., 2001). By providing alternative sources of income directly linked to wellbeing of natural systems, it was argued, stakeholders would cease to utilize environmentally destructive practices for income and would protect the natural resources upon which their new livelihoods depended. Multiple-use forest management was a logical strategy for maximizing environmental and socio-economic benefits by addressing both commercial and subsistence needs through the extraction of timber and non-timber forest products (NTFPs) (Panayotou and Ashton, 1992). However, despite many attempts to implement ICDPs for multiple-use management worldwide and substantial investment from donor organizations, very few projects have achieved their goals (Kellert et al., 2000; Barrett et al., 2001, 2005; McShane and Wells, 2004).

Two arguments have been put forth to explain the widespread failure of ICDPs (Berkes, 2004). Some argue that economic development and conservation may be inherently incompatible in conservation projects (Redford and Sanderson, 2000; Browder, 2002; McShane and Wells, 2004). Others contend that most ICDPs were implemented inadequately, failing to fulfill basic necessary conditions such as: devolution of authority and rights to local people, sufficient technical and institutional capacity, economic viability, fair distribution of revenue, reconciliation between local and global interests, and resilience of ecological processes and social institutions (Adams and Hulme, 2001; Barrett et al., 2005; Murphree, 2002; McShane and Wells, 2004; Robinson and Redford, 2004; Sayer and Campbell, 2004; Stoian et al., 2009; Wells et al., 2004). ICDPs based upon multiple-use forest management have also had to contend with the extra challenge of seeking compatibility among diverse forest uses and stakeholders, entailing technical,

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social, economic, and political implications (Guariguata et al., 2010), leading some to argue that industrial forest concessions are likely to be more efficient and effective than community-based forest management (Karsenty et al., 2008).

Despite the challenges of integrating conservation and development goals, most conservation and poverty reduction efforts today include aspects of both (Garnett et al., 2007). Today environmental sustainability is conceptualized as an essential pillar of development, and is listed as one of the United Nations' Millennium Development Goals (Jensen, 2010). Furthermore, the global challenges of poverty and environmental degradation are projected to augment in the foreseeable future (Hillebrand, 2008). For all of these reasons, there is increasing pressure for improved understanding of the drivers of success and failure in ICDPs, as well as practical lessons for their design and implementation (Sayer and Campbell, 2004; Campbell et al., 2010).

Guatemala's Maya Biosphere Reserve (MBR) provides an ideal opportunity to extract lessons about the use of multiple-use forest management for integrating conservation and development goals. In the Multiple-Use Zone (MUZ) of the MBR, the usufruct rights to timber and non-timber forest resources were granted through concession agreements to 12 community organizations and two private timber companies in the late 1990s and early 2000s. Several studies have documented the status and trends of the concession system in the MBR, generally concluding that community forest concessions have been a successful model for achieving both conservation and development (e.g. Gretzinger, 1998; Nittler and Tschinkel, 2005; Carrera et al., 2004; de Camino and Breitling, 2008; Bray et al., 2008). However, recent events, including the failure of several concessions, justify a deeper, updated analysis of concession performance.

This paper provides an analysis of the evolution of the MBR concessions over a period of more than a decade. First, we describe the concession granting process and initial conditions in each of the 14 concessions, as well as the management practices utilized both for timber and non-timber forest products. Next, we present a critical assessment of the current state of governance, ecological integrity, and socio-economic development in each of the forest concessions, using a series of quantitative and qualitative indicators. Subsequently, we provide a categorization of the different trajectories the concessions have experienced, with narratives describing the key factors that may have influenced their success or failure. Finally, we provide suggestions for the continued consolidation of multiple-use forest management practices in the MBR, and draw out lessons for ICDPs elsewhere in the tropics.

2. Establishment of Forest Concessions in the Maya Biosphere Reserve

2.1. The Maya Biosphere Reserve

Until the 1960s, the lowland Petén region of northern Guatemala was home to only a handful of small forest villages and timber companies dependent upon the extraction of forest resources such as mahogany (*Swietenia macrophylla*) and *chicle* (*Manilkara zapota* tree resin used to produce chewing gum). Due to its isolation the department was treated as a quasi-independent state, largely ignored by national politics, and from 1959 to 1989 was governed by a para-statal authority, *Empresa de Fomento y Desarrollo Económico de Petén* (FYDEP), with the responsibility of stimulating colonization and economic growth. As a result of the program – especially after the first road was opened to the region – the population of the Petén increased by 9% annually (Fort and Grandia, 1999) until the pressures of slash-and-burn agriculture and logging threatened to destroy the entire forest within 30 years, according to projections (Sader, 1999).

In 1990, with encouragement from conservation and aid organizations, the Guatemalan government established the MBR in order to control forest destruction (Sundberg, 1998; Nittler and Tschinkel, 2005). At just over 2-million hectares, the MBR covers more than half of the Petén department and nearly a fifth of Guatemala's territory, including the heart of Mesoamerica's largest remaining forest and important vestiges of the ancient Maya civilization. The goal of the reserve was to "combine the conservation and sustainable use of natural and cultural resources in order to maximize the ecological, economic, and social benefits for Guatemala" (CONAP, 1992).

The reserve is divided into three zones. The core zone (36% of the MBR) consists of national parks and biotopes and is reserved for scientific investigation and low impact tourism. The buffer zone (24% of the MBR) forms a 15 km-wide band along the entire southern border of the reserve. The MUZ (40% of the MBR), includes 848,440 hectares in which sustainable, low-impact land uses are allowed. The core areas are distributed mainly around the reserve's periphery, leaving the MUZ to function as the *de facto* heart of the reserve in terms of maintaining large-scale ecological processes (Fig. 1).

2.2. The concession granting process

The Guatemalan protected area service, CONAP, was created in 1989 – less than 1 year before the MBR was established – and for years lacked the capacity and experience to effectively manage such a large area. In the early 1990s, conflict escalated between local communities and state agencies due to the restriction of access to resources within the new protected area, and forest destruction continued unabated (Carrera and Prins, 2002: Finger-Stich, 2003). The conflicts spurred CONAP to initiate the option of sub-contracting the management of MUZ units to third-party organizations through forest concessions.

At the same time, peace agreements were being drafted to end Guatemala's 36-year armed conflict. The 1996 Peace Accords mandated increased democratization, decentralization of power and resources, and participatory development, including the establishment and strengthening of participatory arrangements, such as cooperatives. The chapter "Agrarian Situation and Rural Development" called for increased access to land and the sustainable use of land resources, specifically requiring that "by 1999, (the Guatemalan government) allocate to small and medium-sized farmers' groups legally incorporated as natural resources management ventures, 100,000 hectares within multiple-use areas for sustainable forest management" (ASESA, 1996).

As a result of the backfiring of command-and-control strategies, the requirements of the Peace Accord, and offers of financial support from USAID, CONAP prioritized the granting of forest concessions to organized community groups that had historically inhabited or extracted resources from the area. The six communities living within the MUZ were given the highest priority for concession rights to their areas of historical influence, buffer zone communities were given second choice, and after much controversy over their inclusion, two private timber companies were relegated to last choice (Nittler and Tschinkel, 2005).

In order to apply for a concession, legally established community organizations were required to demonstrate historical use and/or capacity to manage forest resources sustainably. Communities had to be well-organized internally, and be accompanied by an NGO of their choice that would provide the technical skills needed to comply with management requirements, such as elaborating management master plans, annual work plans, and environmental impact analyses, developing financial management and forest