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Working Forests: Mexican Farmers' Challenge to Conservation

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Introduction

Across the globe, conservationists and policy makers alike are implementing programs that work with local communities to protect forests (Gibson and Marks 1995; Peluso 1991; Primack, Bray, Galletti, and Ponciano, eds. 1998). These programs are especially vibrant near protected areas where the park model is under pressure from local user groups. Because these groups often depend on their immediate surroundings for subsistence, conservation organizations and government agencies advocate alternative land use practices through integrated conservation-development projects (Wells and Brandon 1992; West and Brechin, eds. 1991; Western and Wright, eds. 1994). These projects tend to encourage either sustainable harvests of forests goods or a spatial intensification of practices (such as shifting agriculture) that entail deforestation. Overall, the projects aim to maintain the integrity of protected areas, places where ecosystem health is conceptualized as the absence of human activity (Hunter Jr. 1996).

In this article, I draw on fourteen months of anthropological participant-observation carried out during 1994 and 1995 to explore challenges posed by Mexican farmers to conservation-development projects and to the park model itself. Following Milton's call to examine ethnoecologies for their conservationist content (Milton 1996), I consider how people living near the Calakmul Biosphere Reserve categorize local landscape features. Calakmul is Mexico's largest protected area for tropical ecosystems. As such, regional conservation has received the support of groups such as the Global Environment Facility and WorldWildlife Fund. This global interest in Calakmul points to the way localized ideas of the environment are enmeshed in multiple power structures (Nazarea, ed. 1999). The proliferation of conservation-development projects in Calakmul arises out of an acknowledgement that local people will determine the region's future ecology (Acopa and Boege 1998; Boege 1995). An uneasy incorporation of local environmental ideas into these projects points to tensions in conservation that center on both power and epistemological differences.

Calakmul's Ecology and People

Created in 1989, the Calakmul Biosphere Reserve encompasses a nucleus of 1,787,000 acres and a buffer zone of 608,000 acres. Calakmul's forests are seasonal tropical forests. Unlike tropical rain forests, the seasonal tropics experience marked differences in dry and wet seasons. At Calakmul, one in four years may find rainfall below 800 mm, creating drought conditions (Folan 1991). Similar to rain forests, Calakmul is home to threatened species such as jaguars, toucans, and tapirs. While the size of Calakmul alone is impressive, the region also connects with protected areas in neighboring Guatemala and Belize that collectively cover five-million acres of lowland forest (Mansour 1995). Since the 1980s, conservation and tourist groups have promoted this area's ecological and historical characteristics under the Ruta Maya program--the Maya Route (see Garrett 1989).

Calakmul is home to numerous archaeological ruins. The region's recent occupants, however, differ significantly from its pre-Columbian inhabitants. Calakmul was relatively depopulated until this century when the chicle (the original chewing gum obtained from tree sap) and timber industries imported laborers to work the forests. Chicle production peaked in the 1930s (Ponce Jiménez 1990), while timber extraction began in earnest in the 1940s. Chicle production declined with the invention of a synthetic substitute in the 1940s. Timber extraction continued into the 1980s when regional mills ceased to operate because of a lack of quality timber in Calakmul's forests. A third wave of migration into Calakmul began in the 1960s, when Mexican authorities opened the tropics to land-hungry farmers (Arizpe, Paz, and Velázquez 1996; Haenn 1999). Through their work in swidden agriculture, these migrants changed the region's economy from one based on forest products to one that emphasizes deforestation. Still, Calakmul and its buffer zone continue to be heavily forested. Recent population estimates note approximately 25,000 people living in the municipio of Calakmul (roughly equal to a U.S. county). Regional population density is just 2.5 persons per square kilometer (Ericson 1999).

Table 1 shows how researchers characterize Calakmul's forests according to height and amount of leaf loss in the dry season. These categories offer only a rough guide as much remains to be learned about Calakmul's forest. Apart from work published in the 1950s (Beltrán, ed. 1958), intensive studies of the region's botany began only in the 1990s. Since the 1950s, Calakmul's forests have been heavily exploited, so more recent research examines a forest that has been considerably altered. As investigators piece together the precise qualities of Calakmul's ecology, Calakmul's people receive general admonitions to protect the forests. Especially in the context of conservation-development projects, governmental and non-governmental administrators talk about the need for protection without discussing the scientific data supporting why farmers should do so. This generality raises suspicions of outsiders' intent to control forests, while it obscures important differences in how Calakmul's people and managers view appropriate land management.

Table 1

Type	Description
High evergreen	Canopy greater than 30 meters
Medium semi-evergreen	25-50% leaf loss in dry season; canopy 15-30 m.
Medium subdeciduous	50-75% leaf loss in dry season; canopy 15-30 m.
Low semi-evergreen	25-50% leaf loss in dry season; canopy less than 15 m.
Low subdeciduous	50-75% leaf loss in dry season; canopy less than 15 m.

Source: (Gates 1993)

Working Forests

Finding commonly held ideas on anything in Calakmul is a challenge. Calakmul's people represent virtually all Mexican states and include a number of indigenous groups. With a dynamic frontier atmosphere, Calakmul's farm community is often contentious and deeply divided. As such, I was surprised by the commonalities in how people think about the environment. These findings came about during interviews with ten men of distinct state and ethnic origin. Through piles sorts, I asked them to group twenty-seven landscape features (taken from their descriptions of their villages and farm plots) according to whatever categories seemed relevant to them. Throughout these sorts, the men unanimously grouped areas currently under cultivation and described these as "where we work." They grouped forest categories (see below) separately and described these as future farmlands, "where we're going to work." Furthermore, they grouped protected areas according to concepts of work. In this case, they joined protected areas with archaeological ruins which Mexican federal law also prohibits them from altering. They described these places as "where we cannot work."

The specific kinds of forest described followed a height categorization similar to that found in Table 1. However, rather than evaluate forest height in terms of the absence of humans, these men placed people and human activity firmly at the center of their considerations. Travelling across forested land, they pointed out acahual, forest felled within the last five to ten years. An acahual harbors narrow trees and is the most preferred site for future farming. Farmers also pointed out forests that are monte. The word monte applies to all natural growth, but one if its specific meanings is "forest felled roughly within the last ten years". Because it requires greater effort to clear, monte is of secondary preference in farming. Finally, montaña is forest that has never been cleared. Without access to a chainsaw, farmers must exert considerable labor in axing montaña. Thus, montaña is the least preferred site for farming.

This variety of landscape features plays an important role in regional household economies. Calakmul's people work in one of Mexico's most poorly remunerated sectors. While farming for subsistence and cash crops, Calakmul's people are also highly dependent on government subsidies (Haenn 1998). They self-consciously diversify within what they see as subsistence, market, and state-directed economies. This diversification has a concomitant ecological element. Having a variety of forests on hand helps people respond to changing economies by switching resource use patterns. As I will show, conservation itself has contributed to changing economies. Calakmul's farmers benefited directly from standing forests for a brief while, however the future value of regional forests remains unclear.

A Local Environmentalism

During the early to mid-1990s, Calakmul's people voiced support for sustainable resource use through their participation in a farmer organization, the Xpujil Regional Council, as well as through their work with the Biosphere Reserve. During the time of this research, the two institutions were so closely aligned as to be nearly indistinguishable. With the aid of the first Reserve Director, Deocundo Acopa, the Council received funds from federal and non-governmental agencies to carry out conservation-development projects in the buffer zone. With this aid, the Council's budget rivaled that of any (formally) governmental agency in the region. The Reserve Director also required that local residents occupy Reserve jobs whenever possible. To outsiders, this alliance gave the appearance of a home grown conservationism.

More than 40 villages were members of the Council where they chose from a variety of programs, including agroforestry, organic agriculture, reforestation, wildlife management, and environmental education. Implementation of these programs through the Council's democratic structure gave the group a grassroots appearance. Member villages voted representatives to the Council's monthly assemblies. These representatives oversaw project implementation and debated the programs' merits. The Council's funding was always "top down" and programs emphasized the interests of donors. At the same time, the group boasted a strong "bottom up" component in which members voiced their development needs to an elected board which ideally acted on behalf of its constituency.

Under Acopa's close supervision, the Council became a site where people connected resource use to conservation. Acopa encouraged people to take advantage of conservation funding on the grounds that these programs aimed to protect the environment so people might use it. This message neatly coincided with the above ethnoecologies, and Acopa found broad support for his overall vision of conservation. He described biodiversity as "diversity in use," noting that people would only protect the array of natural resources from which they received benefits.

As the most powerful office holder in the Region, Acopa further pressured non-governmental groups and researchers to cultivate support within the Council assembly. This allowed people the opportunity to comment on and shape local conservation efforts. For example, when the state governor and the Canadian ambassador to Mexico attended a Council assembly to sign a bi-national agreement funding conservation-development projects, they were greeted by an elated audience which gave them a standing ovation. State fire fighters were not so warmly welcomed. During the burning season, when farmers prepare their fields for planting, a number of smaller fires got out of control and affected hundred of acres of forest. Fire fighters met with the assembly to discuss fire control techniques only to be rebuffed by an audience who declared that building firebreaks required too much effort for which they would not be reimbursed. In general, assembly delegates supported programs that reinforced or expanded existing farming operations. They resisted projects requiring additional labor as well as programs they judged too risky to their farming. This ambivalent reception reflected a deeper concern about the motivation of conservation proponents. Calakmul's people asked themselves why outsiders were so interested in protecting the forests. Their answer to this question lies partially in their understanding of the environment as a place of work.

Conservation and Class Conflict

If land is a place of work, then Calakmul's residents surmised that outsiders must have some use in mind for the Biosphere Reserve. Along these lines, farmers viewed protected areas as attempts by government agents and urban environmentalists to control forests for their own ends. This analysis could be quite sophisticated. It ranged from an understanding of the localized gain to be had from conservation to an awareness that environmental advocates parlayed their work at Calakmul into success in other social realms. Two examples demonstrate this understanding.

In 1995, farmers in one village killed a government agent who was checking on whether they were felling older growth forest. Although reported in the press as an act of poachers bent on depleting resources, the killer (who fled the region and was never prosecuted) was known locally as an average farmer. His actions received some support within the farm community as the agent was rumored to be extorting from farmers. Whether or not the rumors were true, it's important that Calakmul's people link conservation to government corruption. They see conservation as a new area for illicit government activity. Thus, when I asked one man if he saw that animals were becoming extinct, he replied no "The [Mexican] President invents these things, or he's taking advantage of something."

Members of national and international environmental groups received similar criticism. Calakmul's residents are aware of the gain made by tapping into the financial structures associated with conservation and development planning. In the words of a former board member of the Regional Council, these structures are the principal domain of non-governmental groups. He said, "That's why the money ecologists have for conservation doesn't arrive here. It all goes to rock concerts, exotic meals, and travel." While these assessments include a strong critique of Mexican and international class structures, they also relate to local ethnoecologies. Calakmul's residents presume everyone has some use in mind for the Reserve. They believe governmental and private sector agents disguise their desired plans because these plans entail promoting themselves at farmers' expense.

Conclusions

The case of Calakmul raises challenges to conservation practices throughout the world. Historically, both Mexico and the United States have struggled with the issue of whether "wise use" or preservation is the best way to ensure that current resources last into the future (Simonian 1996). In rejecting preservation, Calakmul's residents challenge Mexican and international environmentalists who have been hard pressed to develop alternatives to the widely implemented park model (see also Adams and McShane 1992).

Even if such models existed, the situation at Calakmul points to the need for consistent implementation of any conservation program that includes local people. Since 1995, when this research took place, Calakmul's pervasive conservation-development programs have ceased to exist. After federal funding cycles ended, international groups supported the Regional Council. Exasperated by corruption, a slow pace of change, and an apparent lack of local commitment to conservation, these groups have also failed to renew funding. The Regional Council now includes a handful of people who carry on in name only. While Calakmul's people fault Council leaders for creating a corrupt atmosphere that offended donors, the nearly complete withdrawal of federal and non-governmental funds for conservation-development also adds to local doubts about outsiders' own commitment to conservation.

Despite this turn of events, widespread promotion of conservation-development was effective in raising consciousness about environmental issues. The possibility still exists for a localized environmentalism at Calakmul. I met farmers opposed to government appropriation of land for parks who, nevertheless, maintained part of their farm parcels in forest for hunting or to collect some other product. Perhaps policy planners have the most to learn from these opponents of conservation. What might their environmentalism look like? Given that Calakmul's people experience deep economic insecurity and skepticism toward government authority, I believe this environmentalism would likely build on notions of work to stress political autonomy and secure access to natural resources. This local environmentalism might include an attitude toward the physical environment not unlike that of U.S. hunters and fishermen whose interest in resource use has generated numerous protection programs.

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