

The Power of Environmental Knowledge: Ethnoecology and Environmental Conflicts in Mexican Conservation

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Theory in political ecology emphasizes the role of competing interests in shaping resource use. Although supportive of these approaches, this article draws on the importance of meanings assigned to ecological systems to question how epistemological differences also contribute to environmental conflicts. Following calls to examine the interface between environmental knowledge and action, consideration is given to ethnoecological constructs of forests on Mexico's southern Yucatan peninsula, home to the Calakmul Biosphere Reserve. To quiet opposition to the Reserve, government agents increased financial aid to the region in the form of conservation development projects. With the counsel of a Reserve director, local residents effectively used these projects to press for an environmentalism based on sustainable resource use. This position has associations with a local ethnoecology of land as a place of work. In examining how ethnoecologies played out in contests surrounding conservation, possibilities for a localized, alternative environmentalism are discussed, as well as the importance of environmental constructs for research in political ecology.

KEY WORDS: political ecology; anti-environmentalism; Calakmul Biosphere Reserve; seasonal tropical ecology; community-based conservation.

INTRODUCTION

In his summary of political ecology theories, Grossman described this diverse body of research as tending to emphasize how "agriculture and

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environmental change are influenced by state policy, regional trading blocks ... , investments by transnational capital, penetration of the market, and the social relations of production" (Grossman, 1998, p. 18). Other researchers also suggest that the effects of power systems on environmental outcomes stem from the outcome of competing interests among various parties (Blaikie & Brookfield, 1987; Peluso, 1991; Schmink & Wood, 1987; Stonich, 1993; Stonich & De Walt, 1996). While supportive of these approaches, this article also draws on recent work describing the importance of the meanings assigned to ecological systems (Escobar, 1999; Rocheleau *et al.*, 1996) to question how epistemological differences contribute to environmental conflicts. Following calls to examine the interface between environmental knowledge and action (Nazarca, 1999b, p. 7), consideration is given to ethnoecological constructs of forests in Campeche state on Mexico's southern Yucatan peninsula to explore how these constructs frame opposition to conservation activities.

Southeast Campeche is 'tome to the Calakmul Biosphere Reserve, Mexico's largest protected area for tropical ecosystems. Declared in 1989, the Reserve's existence was communicated a year later to the 25,000 migrant, swidden farmers or *cantpesinos*, who now live in its buffer zone' After an initial period of intense local opposition to the Reserve and newly imposed restrictions on subsistence activities (hunting, and burning and felling forests), government agents and farm leaders brokered a settlement in which farmers would receive increased economic aid in the form of sustainable development projects. Government aid calmed public expression of anticonservationist sentiment, while farmers privately continued to resist the application of conservation measures outside Reserve limits. In this resistance, farmers describe tensions surrounding conservation as centering on competing class interests in resource control and on conflicting ideas regarding the government's appropriate role in land stewardship.

Government-farmer relationships associated with the Reserve and environmental regulations continue to emphasize questions of interest, control, and expectations of government behavior. These contests focus on issues such as the extent to which the government has the right to direct household farming operations, and whether the management of the Calakmul Biosphere Reserve should be directed by local residents or elites in distant cities.

Farmers, urban dwelling environmentalists, foreign researchers, and local and national government agents all participate in ongoing negotiations

¹In 1996, Mexican authorities created the *municipio* of Calakmul composed of the Reserve and its buffer zone. A *ntwscipio* is roughly equal to a U.S. county. In the following, the word "Calakmul" is used to refer to the area now within the *ururticipio*'s limits, whereas "Reserve" signifies the Biosphere Reserve.

regarding land use in and around the Reserve. In addition to the offices of government agencies, these negotiations take place in everyday places such as the restaurants of the region's administrative center and farmers' fields and homes where many sustainable development projects are carried out. Participants in these negotiations employ different meanings and definitions of Calakmul's environment. Often, these definitions are tangential to negotiations that otherwise focus on land use. Nevertheless, these categories frame environmental conflicts at Calakmul, and the following discussion explains how that is the case. In the conclusion of this article, the possibilities for alternative environmentalisms at Calakmul based on local ethnoecologies are explored.

THE SETTING

The Calakmul Biosphere Reserve encompasses 1,787,000 acres of seasonal tropical forests. Located near Mexico's borders with Guatemala and Belize, the Reserve connects with protected areas in these countries as part of a 5-million-acre extension of lowland forest (Mansour, 1995). Calakmul's proximity to additional forests managed by peasant farmers increases its value as an ecological corridor as well as a protected area.

Researchers generally characterize southern Yucatan forests according to height and amount of leaf loss in the dry season (Table 1). As a seasonal tropical ecosystem, the Reserve and its 608,000-acre buffer zone experience markedly different dry and wet seasons.¹ Data show that on the average, rainfall in 1 of 4 years falls below 800 mm, creating drought conditions (Folan *et al.*, 1991). Water shortages create particular difficulties for Calakmul's residents, who rely on raided agriculture and standing water sources.² During times of water scarcity, communities use water delivered from

Table 1. Tropical Forests of Calakmul Region

Type	Description
High evergreen	Canopy greater than 30 m
Medium semievergreen	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 semievergreen	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

(Sources: Bocgc, 1995; Ericson, 1996; Gates, 1993).

¹See Whitmore, 1990, on distinctions between tropical and seasonal tropical forests.

²No permanent streams or rivers exist in the Calakmul region. The area's limestone base, typical of the entire peninsula, quickly absorbs rainfall.

some of the region's larger lagoons. The author's 14 months of participant observation in Calakmul began in the fall of 1994, at the end of a drought year when many families required food aid to subsist. The following year, two hurricanes buffeted the region, flooding crops and forcing farmers to turn again to government relief for survival.

Although scientific descriptions provide an overview of Calakmul's ecology, much remains to be learned about the specifics of forest growth and regeneration at Calakmul. Throughout this century, the forests of southeast Campeche have been heavily exploited for forest products. During the 1980s, regional sawmills ceased operation because of a lack of harvestable timber. Botanical investigations of the region began in the early 1990s, at which time researchers encountered a forest lacking older trees. Photographs from the 1950s show taller trees of greater diameter than can be found today (Beltran, 1958).

Current scientific understandings of Calakmul's environment are rarely communicated to the region's people. Instead, the governmental and non-governmental administrators of regional conservation and development projects tend to speak in generalities about the need to protect forests and prevent animal extinctions (see later discussion). These generalities are part of a larger picture in which competing, sometimes conflicting, ideas of the regional environment coexist.

ETHNOECOLOGIES AT CALAKMUL

Because southeast Campeche is home to migrants from all regions of Mexico (Haenn, 1999), farmers use a variety of constructs to understand their new environment. However, despite their many differences, Campeche's farmers generally agree that the physical environment is a powerful entity, and a place of work.

The notion that the environment is a powerful entity is an analytical construct based on Milton's suggestions for reconsidering the way anthropologists understand how people conceptualize the environment. "As well as giving environments," she writes, "we might be able to identify passive environments, vindictive environments and so on" (Milton, 1996, p. 119). In accordance with this, Milton points to the existence of "non-industrial societies which do not recognize a human responsibility to protect the environment" (Milton, 1996, p. 133) because the environment as a force in itself lies outside the human domain. In these cases, the environment may be understood as powerful or having an independent vitality which challenges human ability to create a social order within it.

Spirits, known as *duendes* or *aluxes*, may live anywhere, but farmers

associate them most commonly with forests and Mayan ruins. *Duendes* are tricksters said to carry away children lost in the forest. Farmers in one village described how a 3-year-old child became inexplicably lost for 2 days in the small woods immediately adjacent to her house. When the search party finally found her, she said her "brother" had cared for her during that time. Villagers believed this "brother" was a spirit.

Evangelical faiths have taken up *the duendes* as part of their proselytizing efforts. To counter syncretic Roman Catholic beliefs, evangelicals demonized *duendes* and, not coincidentally, reinforced the notion of forests as: dangerous, asocial space. In their reconstruction of Genesis, evangelicals explained that when Satan was driven out of Heaven, he came to the Earth, and now lives in forests in the form of *duendes*. By accepting evangelical teachings, converts become immune to the power of *duendes*, although the spirits continue to lurk in the forests. Forest spirits are part of a larger depiction of forests as "ugly," untamed wilderness. Calakmul's farmers regularly describe people who live in the forest as "dangerous." Forests are thus not only powerful, but can be essentially threatening to social order.

For many farmers, the power of forests lies in the way they "always grow back." Felling forests and farming are actions that bring land under social control, thereby limiting the forest's power. Attitudes toward this aspect of environmental power fall into two general areas. In the first area, people tend to see cultivated and wild plants as different ends of a continuum. Where cultivated plants now exist, weeds will take over, and eventually taller, secondary growth will emerge. Within this configuration, creating agricultural fields brings forests under human control only temporarily. Forest regeneration remains desirable because it enriches land for future farming.

In the second area, farmers view forests in direct opposition to cultivation and wealth. For them, the existence of forests marks the absence of productive activities, and they describe a need to permanently fell forest: "When I fell forests, it's for good." Before migrating, farmers in this group often had occupied positions in industrial agriculture. They came from areas in the states of Veracruz and Tabasco where large-scale deforestation in the 1950s and 1960s created landscapes with little more than patchy remnants of once extensive forests. For these farmers, a natural landscape is one that has been markedly modified by human activities. They tend to view the forest's power as predominantly negative.

In addition to the concept of a powerful environment, interviews conducted with 10 men of distinct state and ethnic origin elicited common themes of how the environment is a place of work. Fields are "where we work" (Murphy, 1998). Forests are future farmlands "where we're going to work." Interestingly, a separate category consisted of those places "where

we cannot work," including protected areas and archaeological ruins (which Mexican law prohibits people from altering in any way).

Within this general framework, the men evaluated specific landscape features according to what kinds of work took place there in the past, and what possibilities that place offered for future work. Using forest height and tree diameter to measure length of time since a felling, they described the forest as being in one of three categories. *Aca/utales*, or forest felled within the last 5 to 10 years, with immature trees having narrow trunks, require less work to clear and are preferred sites for future farming. The second category, *motile*,⁵ is forest felled within approximately the last 10 years. The labor demands in felling *monte* obviously are greater, and in addition to the ubiquitous machete, farmers may need to use one of the few functioning chain saws locally available in order to clear land covered in *monte*, which is a secondary preference for future farming sites. The final category, *montafla*, is forest that farmers recognize as never having been felled. Without access to a chain saw, farmers must exert considerable labor in axing *montafla*, which makes it the least preferred site for farming.

Although a variety of local ethnoecologies has been distilled into two generalizations, in Calakmul's political arena this variety underwent further narrowing. Farmers and government agents translated the notion of environment as a place of work into an argument for sustainable resource use. This argument is explored in greater detail later. Here the focus is on the salience of an ethnoecology based on work in a region that is home to a diverse, sometimes divided, farm community.

Nearly all of Calakmul's current population have migrated to southeast Campeche in the last 30 years. Although most people moved from neighboring tropical states, at least 23 of Mexico's 32 states are represented. State of origin is an important identifier among farmers, as is affiliation with an indigenous group. However, despite this diversity, farmers are able to rally around their common identity as *campesinos*. Although *campesinos* are people who farm, the word also indicates a class identity. *campesinos* are people who do not receive a regular salary. Their poverty makes them vulnerable to powerful outsiders. Farmers use this common identity, especially when dealing with government agents and urban and international environmentalists. As *campesinos*, they present a united front in pressing for access to various resources. Common understandings of the environment as a place of work coincide with a common identity based on subsistence farming. As farmers struggle to negotiate differences among themselves

⁵ *Monte* is the general term applied to any growth that is not directly cultivated by humans. Here I draw on one of the word's meanings as it relates to forest growth.

and between themselves and outsiders, this shared identity and ethnoecology are powerful tools for organizing messy social fields.

CONTRASTING ECOLOGIES

Campesino land classifications are not that distinct from the scientific categories underpinning the Calakmul Biosphere Reserve. Both systems use forest height as a focal point for organization. At the same time, the systems exhibit two basic differences. Campeche's farmers understand forests as asocial places where people's proper role is to carry out subsistence work, and forest height marks past human activities. This contradicts the botanical categories circulated in policy and research papers on Calakmul, which generally depict forest growth from the perspective of an absence of human activity. In conservation settings, the notion that ecology is best understood without consideration of human activities often is translated into the concept that an ideal environment is one devoid of human presence (Hunter, 1996, p. 7).

The second difference centers on the way the two systems conceptualize change over time. The idea that a healthy forest is one that achieves full growth potential with little disturbance tends to carry an additional understanding of short-term, engineered change as detrimental to ecosystem health. For Campeche's farmers, ideas of environmental quality vary with changing economies. Short-term changes in forest composition that meet current market trends make the most sense. In the long run, flexibility in access to a variety of resources is the most desirable strategy.

Because of the contrasts between these two environmental models, one might expect conflict in the application of conservationist ideas to land use in southeast Campeche. Indeed, farmers bristle against regulations that restrict hunting, swidden burns; and the felling of older growth forest. At the same time, they publically espouse environmentalism in order to cultivate financial aid in governmental and international circles. The following sections explore how this contradiction developed and, in particular, how farmers and certain government agents have promoted forest use under the mantle of sustainable development.

ENVIRONMENTAL CONFLICTS AT THE REGIONAL COUNCIL

Calakmul's first Reserve Director, Dcocondo Acopa, described a broad division in the conservation community between those who support the sustainable use of resources and those who believe environmental protec-

lion requires a strict separation of people from protected areas. He characterized this latter position as the no *tocar* or "do not touch" approach. The debate between resource use and resource preservation in Mexico has documented connections with similar disagreements over the wise use of natural resources in U.S. conservation history (Simonian, 1996). As described by Acopa and members of Calakmul's farm community, this debate resonates with the knowledge systems outlined earlier. At the same time, advocates of the two positions occupy different positions of power, and, in general, those who promote preservation tend to have greater education and financial means than Calakmul's farmers (Deocundo Acopa, pers. comm., July 3, 1995). In this way, Acopa saw environmental knowledge as implicated in power systems. He was very interested in power structures and viewed his principal work as Reserve Director as managing competing interests to the benefit of both Calakmul's forests and its people.

Acopa's was the most influential government office in southeast Campeche, and he sponsored regular meetings in which representatives of regional farm organizations, nongovernmental environmental groups, and various government offices met to communicate (and, to a lesser extent, coordinate) their actions. In these meetings, Acopa usually was partisan to the positions held by regional farmers. Acopa was a nationalist and sympathetic to the *campesinos'* poverty. He saw farmer control of resources as part of a larger struggle for *campesino* self-determination. At the same time, on receiving his appointment to the Reserve directorship, Acopa was given the mandate to win Calakmul's inhabitants over to Mexico's ruling PRI party. In the words of one government agent, Acopa's job was to "get the politics in the palm of his hands." His partisanship in conservation was part of a larger goal of strengthening Partido Revolucionario Institucional (PRI) support in Calakmul.

Acopa had ample resources to use in addressing the dual agendas of conservation and electoral politicking. Soon after the Reserve's declaration, government agents representing the PRI quieted antienvironmentalist sentiment by offering a deal. In return for votes in a gubernatorial election, Calakmul's residents would receive increased development aid. Farmers agreed to this votes-for-development deal in 1991. Both the agreement and the subsequent development programs were couched in neopopulist rhetoric of self-help and personal empowerment. In a personal visit to the region, former Mexican President Carlos de Salinas charged farmers with "caring for the Reserve." In the following years, *campesinos* received programs aimed at both protecting standing forests and encouraging self-sufficiency in the farm sector. These programs included agroforestry, sustainable timber harvesting, organic agriculture, intensive cattle ranching, and wildlife management, among others (Acopa & Boege, 1998).

Although paid for with federal funds, the programs were administered by the Xpujil Regional Council, a farmers' organization supervised by Reserve Director Acopa. At the time of the author's field work, the Regional Council was a powerful player in southeast Campeche's political scene. The Council's budget rivaled that of any government agency working in the region, and its programs reached into more than 40 of the 72 villages then located in the Reserve's buffer zone.

Council assemblies were a meeting ground of conflicting ideas about environmental management. During assemblies, village representatives met to oversee the work of the Council's board of directors. As many as 300 men and women attended: the monthly meetings, making the Regional Council a natural place for disseminating government directives (e.g., on fire control during the burning season) or for cultivating support within the broader farm community.

At Council assemblies, Acopa encouraged farmers to take advantage of funding for environmental programs while elaborating his notion of conservation. Acopa described biodiversity as "diversity in use." He believed that if *campesinos* received financial gain by exploiting an array of forest resources, then they would be motivated to protect those diverse resources. Acopa simplified this idea into repeated admonitions that Council programs aimed to protect the environment so that people might use it.

Conversational exchanges at assemblies provided farmers with the language needed to promote resource use to government agents, international and national conservationists, and academic researchers alike. Council board members accompanied development and conservation agents on tours of the region to demonstrate both the Council's success and financial need. Participating in one of these tours as a translator, the author saw how, at each village, agents were met by community representatives to the Council assembly. These men and women were able to reinforce the work of board members by echoing their desires both to protect the environment and to increase their standard of living.

Acopa pressured researchers and nongovernmental staff to request from the Council assembly permission to work in the region. He also demanded that researchers present their findings to the assembly. These presentations often occasioned responses meant to align research and development aid with local interpretations of the environment. For example, one foreign researcher presented his proposal to study jaguars through the use of radio collars. A number of farmers voiced an acceptance of this project based on the need to eliminate jaguars living threateningly close to community water supplies; Both the investigator and Reserve Director Acopa quickly explained that the research might have another use,

specifically tracking jaguars for ecotourists who might photograph the animals.

The work of the Regional Council brings together distinct ways of thinking about the environment in a setting wherein definitions are closely linked to economic and political regimes. In these settings, farmers generally voice support for conservation, even though this may be somewhat confused, as in the case of the jaguar research. At times, assembly delegates may even sublimate local ideas about the environment to gain financial aid and political influence. When the state governor appeared at the assembly to inaugurate a new sustainable development program, assembly delegates received him with a standing ovation. This was one of the few occasions the author witnessed when assembly delegates accepted without dissent a government agent's vision of environmental protection.

Visitors to Calakmul often found enthusiastic local support for conservation. In addition to widespread participation in sustainable development programs, Calakmul's inhabitants also were active in Reserve management. Acopa required that members of the Regional Council occupy Reserve jobs whenever possible. He thus integrated *campesinos* into various regional conservation and development structures. To outsiders, Calakmul gave the appearance of housing a homegrown conservationism, one based on sustainable use and farmer empowerment.

CONTINUED RESISTANCE

Despite these programs, farmers in southeast Campeche continued to resist conservation. Although their resistance had many sources, two points were particularly striking. One area of resistance was based in local ethnologies. If land is a place of work, then outsiders must have some kind of use in mind for the Calakmul Biosphere Reserve. Thinking along these lines, farmers viewed the goal of setting aside land that nobody would touch as a tactical maneuver on the part of government agents and urban environmentalists who aimed to control forests for their own ends.

The second source of resistance lay in local ideas of government-farmer relationships. Mexico's federal government has depended on a social contract with peasant farmers to create the perception of legitimate federal rule (Hart, 1987; Nugent, 1993). This contract includes providing farmers access to land and support in the form of technological inputs and development projects. When Salinas charged farmers with "caring for the Reserve," he invoked this contract by offering symbolic ownership over the Calakmul Biosphere Reserve. Still, farmers recognized the difference between symbolic and actual ownership. They opposed programs that took lane .out of

the agricultural base on grounds that such actions constituted a breach in their social contract with government authorities.

Although the ideal government-farmer relationship enables farmer livelihoods, Calakmul's farmers have learned that many government practices undermine subsistence.: Consequently, farmers link conservation to endemic corruption among Mexico's ruling authorities. In 1995, government agents monitoring older-growth forest were ambushed on leaving a community under surveillance for illegal felling. The farmers involved murdered one of the agents. Although this event was reported in the urban press as an act of poachers, locally people viewed the murder as retribution, because the agents were rumored to be extorting bribes from peasants.

Basing their conclusions in such rumors of corruption, farmers surmise that environmental regulations contribute to more than competing interests in natural resource control. Such regulations also open a new field for illicit government activity. Therefore, when talking about the Reserve with one man, the author asked if he saw that animals were becoming extinct. The man replied, "No, the President invents these things, or he's taking advantage of something." Saying *sontos tan desconfiados*, we are so mistrustful," farmers repeatedly asserted -a.lack of confidence in government actions. At the same time, because conservationism opened new economic and political avenues, farmers were willing to use environmental issues to engage government agents (see also I-lacnn, 1998).

Rather than change local ideas of the environment, conservation projects provided farmers with new rhetorical tools for appealing to people interested in environmental protection. Astute farmers soon learned to mimic conservationist rhetoric publicly while privately continuing to operate within their previously held constructs. For example, Jeronimo explained to me that his village; had distributed land to its members in such a way as to promote forest conservation. When asked just how the village's land distribution pattern (no different from any other in the region) encouraged conservation, Jeronimo could not answer. He had given the answer he thought I, who had arrived through the introduction of the Regional Council, wanted to hear.

Jeronimo participated in every sustainable development project offered in his community. He also sat on nearly every village committee overseeing these projects. Later I learned that although Jercinimo signed on for all projects, he followed through only on those he thought useful. For example, one year Jeronimo planted reforestation trees provided by the Council. The following year, on another Council project, he was able to plow his land with a tractor, a project that he was convinced would increase his harvest. With the Council tractor, Jeronimo plowed under the reforestation trees.

Jercinimo is one example of how farmers are wary of both environmen-

tal regulations and the benefits brought about by integration into conservation development programs. In this setting, farmers' notions of environment as a place of work take on political implications in the overall struggle to defend access to land. As farmers deal with the vagaries of an undependable government and marketplace, maintaining access to an environment in which they can work remains crucial to their livelihoods.

CONCLUSIONS

In calling for an ethnoecology that bridges knowledge and action, Nazarea (1999a) noted the importance of ethnoecologies as situated knowledge within overlapping power structures. The ethnoecology popularized and politicized by Reserve Director Acopa self-consciously mediated a division in knowledge and power between Calakmul's campesinos and urban and international elites. At Calakmul, programs to protect the region's forests also aim at changing the way people think about the environment. For example, policy makers explained to me their hope that programs such as village forestry reserves would change the content of people's interactions with the environment, and thereby change attitudes toward environmental protection. In making explicit the political implications of knowledge structures, Acopa opened the way for *campesinos* to use their own ethnoecology as a tool in their struggles to maintain access to land.

Through the Regional Council and their alliance with Reserve Director Acopa, *campesinos* have promoted their notion of the environment as a place of work to counter preservationist ideas associated with the park model. Throughout my research, these two constructs had a symbiotic relationship such that one would hardly be mentioned without reference to the other. I came to question the interdependence of these two constructs. Could their pairing serve some purpose?

Since this research, much has changed in Calakmul. At the end of his tenure, Reserve Director Acopa moved to another site in Mexico's tropics. When its federal funding ended, the Regional Council received support from international donors for conservation development projects. These funds were not renewed, and the pervasive conservation development activities studied have ceased. A Mexican environmental group remains active in the region, providing the most consistent voice for conservation. Even at the height of conservation activities in 1995, policy makers had doubts about the programs' durability. They were unsure whether the programs, even if fully implemented, would actually result in continued forest cover and an increased standard of living for the region's families.

Given the tenuousness of conservation at Calakmul, I believe the connection between use and preservation served a variety of purposes. The opposing ideas provided latitude in which campesinos, government agents, and environmentalists could test both conservation programs and their respective strengths in shifting political fields. The opposition allowed farmers to take advantage of new subsidies while protecting their economic foundation in subsistence agriculture. In espousing both use and preservation, federal authorities appealed to conflicting interests among divergent constituencies. Finally, as scientific knowledge about Calakmul continued to accumulate, the opposition allowed policy makers to experiment with various conservation measures without forsaking any future path for protection.

Anti-environmentalism remains a powerful sentiment at Calakmul. In addition to their class critique of conservation, Calakmul's campesinos are aware that the tension surrounding resource management stems from the different ways in which people see the world. The material from Calakmul suggests that part of the political ecology of resource management lies in this intersection of power and knowledge. Calakmul's *campesinos* may have a more detailed awareness of divergent knowledge systems because environmental regulations and sustainable development projects force farmers to reckon with alien environmental categories. At the same time, the fact that a diverse body of local ethnoecologies has become distilled into the notion of environment as a place of work means that other possible areas for land use negotiation (such as aesthetic or cosmological considerations) are obscured. This distillation is not unusual. As Wolf (1999) has written: "ideas and idea-systems are often monopolized by power groups and rendered self-enclosed and self-referential" (p. 7).

Part of the broader aims of political ecology should entail questioning how power groups lend prominence to specific ideas of land management and what lessons might be learned from ideas marginalized by political processes. As diverse interest groups meet in political ecology settings, what language and ideas do people use to address their differences? How effective are these communication structures in negotiating distinct positions?

The Regional Council's program raises questions about possibilities for a more localized environmentalism. Does an environmental ethic exist in the political strategizing and anticconservation sentiment with which Calakmul's residents approach conservation development? Johnson (1999) cited the need to examine anti-environmentalism as part of the overall project of environmental protection. His research into the formation of a U.S.-protected area at the turn of the century questions the extent to which positions labeled as anti-environmentalist may contain wilderness ethics at

odds with those favored by professional environmental managers. Johnson describes a situation similar to Calakmul in which subsistence users came into conflict with local and urban elites who intended the park for tourism and sport hunting. According to Johnson's documentation, the latter environmental ideas won out over the former.

In my research, I met farmers opposed to conservation as described by government agents. They especially opposed government appropriation of land for parks, but nevertheless maintained part of their farm parcels as forest for hunting or for collecting some other forest product. It is possible that with continued funding, small-scale sustainable development projects would have provided a format for greater elaboration of a localized environmentalism at Calakmul. Given the economic insecurity of subsistence agriculture and the wariness with which farmers approach government agents, it would not be surprising if this environmentalism built on notions of work to stress political autonomy and secure access to natural resources.

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