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Forest Values of National Park Neighbors in Costa Rica

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Global environmental concern and action have increased markedly over the past few decades. Rather than resulting in uniform environmental values across the globe, we argue that distinct environmentalisms are socially constructed in different places through the complex interactions between the global environmental values and locally unique historical, political, and environmental factors. We analyze forest-related mental and cultural models—including both beliefs and values—using text analysis of transcripts and field notes from 67 qualitative interviews in five villages adjacent to La Amistad International Park in Costa Rica. We find that global environmental discourse has played a key role in framing the way rural people think and talk about forests. Conservation-oriented discourse has largely replaced earlier frontier views of forests as resources to be exploited and converted to agricultural lands. We find that the new forest beliefs and values are genuine, but also that they are sometimes superficial and lack motivating force. Local people are exposed to influential environmental discourses that see forests as something to be protected for heritage values and as a source of national development through ecotourism and bioprospecting, which often place forest conservation in opposition to their livelihood needs. This conflict has produced mediating discourses that acknowledge forest conservation as good while creating a legitimate place for rural landowners and their livelihood needs in the forested landscape. The result is unique local forest beliefs and values that are different from both earlier local beliefs and global and national environmental discourses.

Key words: environmental values, tropical forests, cultural models, Costa Rica

Environmentalism is a major force in the world today. Global environmental concern and action have increased markedly over the past four decades, as measured in polls and survey research, the growth of environmental groups and social movements, the implementation of environmental policies, and the establishment of national parks and other protected areas (Brechin et al. 2003, Brechin and Kempton 1994, Dunlap and Mertig 1997, Frank, Hironka, and Shofer 2000, Taylor and Buttel 1992, Yearley 1996). Expanding global trends, however, do not necessarily represent a hegemonic force for cultural homogenization. A number of anthropologists have explored ways in which globalizing practices, ideas, and values interact with the local to produce unique, socially constructed cultural forms at specific places (Calhoun 2004, Pfeffer, Schelhas and Day 2001, Sahlins 1994, Watson 1997). Global environmentalism is subject to these same global-local interactions, and these cultural processes have important lessons for our general understanding of global-local interactions, as well as practical efforts to develop successful environmental policy and management regimes.

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Tropical forest conservation has been one of the most important international environmental issues, both as a popular topic attracting widespread public interest and for its role in shaping the way that environmental scientists and groups have approached global environmental issues (Frank, Hironka, and Shofer 2000, Yearly 1996, Taylor and Buttel 1992). Globally-driven forest conservation efforts have had very different results in different places, ranging from violent opposition to the discovery of common ground between conservation programs and local people's economic development or land claiming interests (Brandon, Redford, and Sanderson 1998, Fisher 1994, Haenn 1999, Western and Strum 1994). Forest conservation often impacts rural peoples' livelihoods and rights to resources, and material and power-related issues have been explored in the social science literature on conservation (Brechin et al. 2003, Peluso 1992). It is now generally recognized that there are complex links between material and power struggles and ideology (Hannerz 1992, Ortner 1997), and analyses of conservation discourse have been addressing this (Carrier 2005, Dove 2003, Gezon 2005). There remains a need for fine-scale studies of the global-local cultural interactions that take place around environmentalism and conservation ideology near protected areas.

Conventional wisdom long held that environmental concern was limited primarily to residents of wealthy, industrialized nations (Dunlap and Mertig 1997). However, this notion has been directly challenged by recent international opinion

polls showing strong concern for the environment in rich and poor countries alike and by the global rise in grassroots environmentalism. In a new interpretation, Brechin and Kempton (1994) offered five possible explanations for the global rise in environmentalism: 1) Environmental concern and action in poorer nations as part of larger patterns of conflict over macro-level domination and local resistance. 2) Diffusion of environmental values, often in conceptually consistent packages, though mass media and personal communication. 3) Direct observation of environmental problems, which are widespread and experienced by people everywhere. 4) Communication of environmental values and policies through formal organizations such as states, NGOs, and multi- and bi-lateral aid agencies. 5) A change in the way environmental quality is viewed, now as integral to the economic development process rather than as a luxury. Evidence indicates that the global trend in environmentalism is emerging from all of these sources, and Brechin (1999) suggests that environmentalism is a complex phenomenon that is a mix of social preferences, local histories, and environmental realities, international relationships and influences, and unique cultural and structural features at particular places.

Under this interpretation, distinct environmentalisms are socially constructed through the complex interactions of locally unique historical, political, and environmental factors in the face of global environmental values and action. Local factors will produce differences in environmentalism, while exposure to common phenomena, such as the global spread of environmental values, will produce similarities. While global surveys are important in identifying trends such as increasing environmentalism, they tell us little about several of the fundamental questions for environmental policy—the nature of environmentalism, why increases have taken place, and the relationships between environmentalism and behavior. Understanding the nature, causes, and operation of environmentalism requires in-depth studies in specific places to understand regularities and differences in the social construction of environmentalism under different social, cultural, economic, and political conditions (for example Pfeffer, Schelhas and Day 2001, Boster, and Hartley 1995). In this paper, we report on the results of a study of forest-related cultural models, which incorporate both beliefs and values, of residents of communities adjacent to La Amistad International Park in Costa Rica.

Forest Conservation and Environmentalism in Costa Rica

Costa Rican conservation history encompasses rapid deforestation associated with frontier colonization followed by a multi-pronged government response. Forest lands in Costa Rica were long viewed as unused land open to settlement by anyone willing to convert forest to agriculture (Brockett and Gottfried 2002). Deforestation proceeded slowly until the 1950s, increasing rapidly in the 1970s when the humid lowlands were opened up for banana plantations, cattle pasture, and frontier settlement (Carriere 1991, Evans 1999). Rapid deforestation proceeded through the 1980s and was driven by a demand for land and not for timber, with the majority of the timber cut, burned, or left to rot (Brockett and Gottfried 2002). While agriculture and pasture were a part of the frontier dynamic, the rapid rate of deforestation was driven more by a preference for investment in land in a highly inflationary economy and related land speculation than by a need or desire to establish productive land uses (Schelhas 1996, 2001). Motivated in part by laws that favored cleared land over forests in claiming and titling land as well as to discourage squatters, landholders of all sizes converted forests to agriculture and, most frequently, pasture (Schelhas 1996, 2000).

Significant conservation efforts began in Costa Rica in the 1960s. The 1969 Forestry Law and subsequent revisions required permits for any tree cutting and a technical study showing that cleared land could be used sustainably after forest clearing (Brockett and Gottfried 2002, Watson 1998). Although this regulatory approach looked good on paper, in practice, underfunded agencies could not enforce the laws, seldom got out into the field, and had a record of bureaucratic delays and corruption (Brockett and Gottfried 2002). At the same time, the difficulty in acquiring permits meant that landowners often had to rely on loggers who had the necessary connections (and sometimes paid bribes) to get permits. Loggers often paid low prices and high-graded timber (Brockett and Gottfried 2002).

A second policy approach was to provide incentives for forest conservation. Government fiscal incentives for reforestation began in 1979, incentives for forest management began in the early 1990s, and payments for environmental services from intact forest (e.g. carbon sequestration and watershed protection) began in 1996 (Brockett and Gottfried 2002, Watson et al. 1998). Many of these incentives have favored large landowners and those possessing title to their land, although several programs have sought to make these incentives more widely available to the many small landowners who possess legal rights to land but not title (Thacher, Lee, and Schelhas 1997, Utting 1994, Watson 1998).

Creation of national parks and other protected areas is a third important way that forest conservation has been implemented in Costa Rica. Parks and protected areas in Costa Rica date back at least to 1945, but significant establishment and management of parks and reserves began in the 1970s, when a few key individuals led a very successful effort that generated internal political support in Costa Rica at the highest levels, international support from conservation NGOs and international aid agencies, and widespread public promotion of the parks both within and outside of Costa Rica (Brandon, Redford, and Sanderson 1998, Boza 1993, Evans 1999). By the mid-1990s, 11% of the country was in national parks, and additional 13% in biological reserves, national forests, national monuments, and national wildlife refuges. Costa Rica's protected area system was generally considered to be exceptionally well- managed and staffed (Evans 1999).

Over the same time period, relationships between national parks and private land owners and neighboring communities have been marked by difficulties. Land or the opportunity to use it was taken away from private landowners when many parks were created, and the owners of large portions of many parks are still awaiting payment for expropriated lands (Brockett and Gottfried 2002, Utting 1994, Watson et al. 1998). Those who had worked in or used forests but had no formal land rights were expelled from protected areas without compensation or assistance in relocation or finding new employment (Schelhas 1991, Utting 1994). Local communities have generally been excluded from processes of establishment and management of protected areas, and neighboring areas have often received few employment benefits while suffering negative impacts on development due to displacement of farmers, outmigration of community members, deterioration of roads and other infrastructure that had been maintained by communities, and land speculation (Utting 1994, Watson et al. 1998).

The national parks in Costa Rica have played a key role in the rapidly expanding tourism industry in the country, which has been a leading earner of foreign exchange for the country since in the early 1990s (Campbell 2002, Evans 1979, Watson et al. 1998). The business community and tourism agencies have promoted ecotourism and its link to economic gain, and the view that non-consumptive forest uses could generate both economic and environmental benefits has become well-established in Costa Rica (Campbell 2002, Evans 1999). As Costa Rica became an international leader in conservation, it has also served as the site for a number of major international meetings and programs and seen a proliferation of conservation NGOs (Evans 1999). There has been a corresponding attention to the environment in the Costa Rican media and other aspects of society. As a result, environmentalism became an object of Costa Rican pride and national identity (Evans 1999, Schelhas 2001).

Conceptual Framework and Research Methods

Most national parks are surrounded by human populations that interact in some way with the protected area. National parks have addressed this issue in a number of ways, including 1) programs for local awareness and environmental education, 2) cross-boundary natural resource management programs, 3) promotion of compatible economic development in neighboring communities, and 4) involvement of local people in protected area management (Dugelby and Libby 1998). In spite of these efforts, tensions between parks and local people are common due to historical uses of park resources by local people and differences in the way park managers and local people view nature and the purpose of protected areas (Wilhusen et al. 2003). Much of the literature on parks and people has addressed material struggles over resource use and power relationships, leaving unaddressed important questions about the construction and influence of environmental values at critical sites where global environmentalism and local communities meet.

The issue of environmental values and beliefs is the subject of this paper, and we address it through cultural models. Specifically, we focus on the nature, formation, and motivating force of forest and environmental beliefs and values. Models (mental in the case of individuals, cultural when shared) incorporate both beliefs and values, with beliefs referring to what people think the world is like and values referring to what they think is moral, desirable, or just (Kempton, Boster, and Hartley 1995:12). Mental and cultural models are made of smaller units, called schema, which are more bounded, distinct, and unitary (D'Andrade 1995). Schema theory sees culture as partly individual and partly shared, resulting from the interaction of individuals with other people and stored knowledge and ideas (Strauss and Quinn 1997). Schemas, networks of strongly connected cognitive elements that are largely built up through human experience, provide an organized framework for objects and relations and thereby mediate much of the information processing in the human brain (D'Andrade 1995, Strauss and Quinn 1997). Schemas are fundamental to people's understanding of their experiences and the meanings they attach to them (Holland and Quinn 1987, Strauss and Quinn 1997). Schemas are closely associated with discourse, but can also include representations of sensations, action, and events (DiMaggio 2001, Strauss and Quinn 1997). Because the activation of schemas is based on weights or the strength of connections, rather than formal rules, schemas are very sensitive to small changes in context and highly variable across individuals (Strauss and Quinn 1997). However, when people have common and recurring experiences, they come to share schemas. Strauss and Quinn (1997) thus conceive of each person as a junction point for many different, partially overlapping cultures, some of which are more widely shared than others. Individuals do not have exact copies of schemas in their head, but many schemas are shared and cultural meanings are created in the interaction between the intrapersonal and extrapersonal realm (D'Andrade 1995, Strauss and Quinn 1997).

Schema theory and cultural models thus provide a basis for the empirical study of the social construction of environmental beliefs and values in a way ideally suited to understanding environmental values as socially constructed and dynamic, and operating complexly in contexts to produces different behaviors. Environmental schemas and models can be identified through discourse analysis of transcripts of individual interviews, and variations in them can be assessed through qualitative analysis and by quantitative analysis of survey results (Kempton , Boster, and Hartley 1995, Paolisso 2002). Schema theory suggests several lines of analysis particularly useful in the study of environmental values. First, schemas have been found to have different levels of motivating force and thus different levels of influence on behavior (D'Andrade and Strauss 1992, Strauss and Quinn 1997). Motivating force has been found to depend both on factors internal to the individual (e.g. emotional saliency) and the

context in which the individual acts (e.g. social discourses and institutions) (Shore 1996, Strauss and Quinn 1997). Second, people have been found to have multiple schemas that co-exist with varying levels of integration or compartmentalization. Different schemas can conflict within the same person or in public discourse. When conflicting schemas are brought together, a wide range of outcomes are possible but often new unifying or mediating discourses arise that help to sort out the conflict and subsequent behavior (Strauss and Quinn 1997). Finally, schemas, their motivating force, and relationships between conflicting schemas are all influenced by social positions; that is, people in different social positions will have different schemas, links between them, and motivations attached to them (Holland et al. 1998). These three concepts—motivation, mediating discourses, and positionality—all help in understanding variations in environmental values, their operation, and their influence on behavior under different conditions.

A cultural model approach sees environmental beliefs and values as located in individuals and cultural artifacts, but constructed by individuals through both individual and social experiences. Under this conceptualization, environmentalism in individuals is partly shared due to common experiences, while also having differences that reflect those in individual experiences. The most common method in empirical studies of environmental values is to identify a set of environmental values (often from environmental literature), phrase these as statements for respondents to react to, and measure the extent to which people have adopted or not adopted these values (e.g. Dunlap 1991, Holl, Daily, and Ehrlich 1995). A cultural model approach differs in recognizing multiple environmentalisms, and seeking to understand the content of these and how they are constructed rather than measure fixed notions of environmentalism. To accomplish this in our study, we examined transcriptions of interviews with rural residents residing in communities adjacent to the La Amistad International Park in Costa Rica. We sought to identify common beliefs and values (cultural models), as well as individual and divergent socially constructed beliefs and values. We analyzed the content of individual transcripts in view of: 1) the individual environmental experiences and social locations of our respondents, and 2) the national and international social and political discourse, material and structural relationships, and power dynamics within which local people have lived.

The cultural model approach suggests that the context in which a discourse takes place influences its content, and it is important to address the specific context in which the narratives we analyzed were generated. Leach and Fairhead (2002) discuss how, due to unequal power relationships, rural inhabitants interacting with outsiders may talk about the environment differently than they do in everyday discourse, for example by adopting outsider terms or saying what they think outsiders want to hear. However, Strauss and Quinn (1997:241), in discussing the way that discourses are constructed between researchers and interviewees, find that, while what people say cannot always be taken at face value, what people choose to say or leave unsaid in the interview process is itself very revealing. In our case, because many environmental messages in Costa Rica have originated from North American scientists and conservationists, it is very likely that a research project of North American origin asking questions about forests and the environment would elicit responses favoring environmental conservation, some of which may be hollow or reflect values unlikely to influence behavior. We were aware of this potential problem when we designed and carried out the research, and addressed it in several ways: 1) intentionally striking themes that prior research and experience had indicated might represent mental models that compete with or contradict environmental schema (e.g. livelihood issues), 2) probing deeper with questions about problems with conservation, and 3) engaging in lengthy interviews to get beyond initial responses and reactions. Strauss and Quinn (1997) note that an interview reveals what people think is worth mentioning in that context, which is in itself important. Detailed interviews help to elicit responses that go beyond simply trying to say what the respondent thinks the researcher wants to hear.

But these concerns highlight the importance of being explicit about how the research was carried out, and of conducting careful and in-depth interviews. We visited communities and community leaders prior to beginning the interviews. Semi-structured interviews were carried out by two male and two female North American researchers who spent several weeks living in the communities. In all cases, researchers sought to solicit and understand local attitudes and values, and to take great care not to suggest or give preference to certain values or conceptualizations.

Data used in this paper were collected in a set of semi-structured qualitative interviews with 67 persons in five villages within five kilometers of La Amistad International Park's southern boundary. The villages we selected were geographically dispersed. We selected respondents purposefully, typically making initial contacts in the villages through park guards or other local informants targeting community leaders for interviews. About half of the interviews resulted from cold calls that initiated contacts with individuals we felt were missed in the introductions provided by park guards or informants. We engaged respondents in semi-structured interviews of between one and two hours duration. Our questioning was based on an interview guide consisting of a variety of open-ended questions about attitudes and behaviors related to forests and the park. Specifically, we asked respondents: 1) to discuss forests in general in the region and on their own land, including ways in which they might be beneficial and detrimental, how forests had changed over the years, and who had been responsible for these changes, and 2) to discuss the national park, including what they thought the benefits of the park were, who benefited from the park, if they felt the distribution of benefits was fair, and if they thought there were any problems associated with the park. The responses were open-ended and allowed us to capture the respondents' sentiments in their own words.

Our analysis of the qualitative data began with a simple reading of field notes and interview transcripts. This allowed us to identify a set of important themes in the discourse. We then used *Nvivo* to code sections of the transcripts and field notes according to these themes, developing a finer focus for themes and at times creating new themes as we worked. With the transcripts and field notes coded, we extracted sections of text with the same codes and looked for patterns of responses to our questioning. In our analysis, we frequently moved back and forth between the extracts and the original transcripts so that the context of statements was not lost. For the purposes of this paper, we focused on a subset of the patterns or themes related to forests and the park and looked for consistency and differences in responses across the interviews. We present selected quotations to support and elaborate the findings of our qualitative analysis.

La Amistad International Park

The Costa Rican section of La Amistad International Park was created in 1982. The park protects 207,298 hectares in Costa Rica, and is supplemented by a national park of similar size in Panama and several contiguous parks and reserves in Costa Rica to make up one of the largest areas of protected continuous forest in Central America. In the 1970s, colonists had migrated to this region from other areas of Costa Rica and were clearing forest rapidly to claim land. This stimulated the creation of the park. The original park boundaries were drawn from aerial photos of forest cover with little field work. Because the frontier was advancing and the aerial photos used were several years old, a number of recently cleared and settled areas were included within the park boundaries. Once the government began expropriation processes, owners were not permitted to clear any more forest. Within its boundaries, La Amistad has been managed as a strictly protected national park prohibiting agriculture and extractive use of natural resources. Park management efforts have emphasized boundary protection, but have also included environmental education and, more recently, sustainable economic development programs in neighboring communities.

There are no private individuals living within the park boundaries in the sector of La Amistad International Park where we worked. Only a small percentage of the interviewees had ever owned land in what is now the park, although the park was a major force in the region by restricting access to park lands, through enforcement of forestry and hunting laws outside the park, and through environmental education programs conducted in the communities. Most of the interviewees were engaged in agriculture or related small businesses. Coffee was the major crop, pasture for cattle was an important land use, and there was some subsistence agriculture. A tourism committee had been formed in one community and one landowner had an ecotourism cabin for rent, although there had been few visitors.

Results

General Cultural Models of Forests

We began our interviews by asking a very general question about the first thing that came to mind when trees or forest were mentioned. We probed deeper on these responses, and later asked more specific questions about trees, forest conservation, and the national park. Common themes in these first responses included air, water, and wildlife. Many of the responses were very automatic, and there was a great deal of similarity in both the themes covered and the words used to express them among different respondents. One of the most frequently repeated comments about forests was their importance for purifying air and producing oxygen, and often comparing the forest or the park to a lung. A second major theme was the role of forests in maintaining rainfall and water for human use. A common expression was that, without forests, the region would be a desert. A third very common response related to wildlife, in particular the importance of the forest as a source of food for wildlife and concern that future generations, would not be able to see or experience wildlife species that were once common in the region. We consider these responses to reflect cultural models that are widely available in the media, in environmental education programs, and in contacts with professionals, thus explaining their wide use by rural people in talking about the forest and the environment.

Expressions like these recurred both within and throughout the interviews, and we believe that these are powerful general models of how people think about forests. This appears to be true regardless of whether these widely available models have motivating force or are merely lip-service models. Supporting our claim that these represent general and widely available cultural models, we note that very similar terms were used by people who opposed forest conservation or the park. For example, the following statements from two interviews with people who expressed strong opposition to the park or forest conservation show the use of water, air, and wildlife themes in statements of opposition to the park:

a. People say that it is important to not cut trees because they create oxygen, but that is not a problem here, we have plenty of oxygen.
b. Costa Rica is not a desert without forest, like they say. Actually there is more forest than cultivated land, people are living under bridges and stealing; land should be made available to them.
c. I have always said that we have studied in books about the value that nature has, and we see that it is a shame that [all this deforestation happened]. ...But we were talking in a meeting, and they said that birds have to eat and do their 'work' and it's true, but as we say, we aren't worms that can eat the leaves off the tress, right?... We're not worms, our children aren't worms that can survive on leaves, and therefore it is necessary to eliminate some forest to plant something productive like coffee.

There was a diversity of other responses about the importance of forests, although there is space to only summarize a few examples here. These responses range from very utilitarian ways of looking at forests to statements of admiration of the beauty of forests and wildlife. For example, several people suggested that forest conservation and the national park might help attract tourists and economic benefits. It was also common to mention that good general climatic conditions are often associated with forests, included coolness and fresh air. Interestingly, these were sometimes described in opposition to the polluted air, crime, and other negative characteristics of the city:

a. [talking about the park] It's important, it's good for the health, we hear, one hears on the news about how little oxygen there is, how many cars, how many factories, and how much smoke there is, it is deteriorating the ozone layer, and one goes to San Jose, the parks there in the city, they are little parks with a few trees, the air you breathe, if one goes by a repair shop or walks down Central Avenue, it's all smoke, all the smell of diesel fumes, all gasoline.

Stories of Forest Change

Although our interviewees ranged from recent arrivals to people who had lived in the region for more than 30 years, a backdrop for many of the discussions was the fact that the region had once been forested, followed by descriptions of what it was like in those times. Many of the descriptions talked about the earlier conditions of the frontier, including the extensive forests and abundant wildlife as well as the lack of development and difficulties of frontier life. Some also talked about the efforts and hard work that went into developing the region.

a. This was forest when I arrived, all this was forest...There were only a few clearings-where the school is, here at this store, and, well, at that time it was a sawmill. And all the rest was forest, and there was biodiversity-peccaries, tapirs, and pacas passed through and were abundant in the region. Over time, people cleared forest and all this began to disappear; the animals went away. And the same people hunted them for sport, and thus to me it seems that it has been a big change, very drastic, to get to where we're at now.

This earlier forest destruction was often described as something people did out of ignorance. In many cases, people expressed guilt about what had happened, and described it as "destruction." Forests were described as something that was destroyed out of ignorance and need by humans, although it was also mentioned that now people know more and are trying to reconstruct what was lost with forest clearing.

a. I think that, out if ignorance, we cut everything down flat, no one thought that we needed to protect the places where there was water, the springs and such, and thus now there are consequences. All anyone wanted was to do was clear more land, only fell trees, and nobody thought about the consequences this might bring later.

b. What a great sin was committed with the forests, right? And with the animals. Now people are beginning to conserve, here we have a gentleman who is conserving a small forest. The community has united to not permit hunting. Because of this, things are in the process of being repaired.

c. In the beginning, quite a few years ago, we didn't think about things the way we think about them nowBthe forests. We were destroyers, in those days all we did was work and destroy, destroy the forests. We never thought about the future. But today, it's different; for the new generations it's very different. They conserve and also reforest, creating new forests.

Changing Values

As is indicated in the quotes above, many people noted that significant changes had taken place in recent years in people's attitudes toward trees and wildlife. People see themselves and their neighbors as generally not clearing forests or hunting. This change is attributed to several factors, including enforcement of environmental laws and the presence of park environmental education programs. Yet a number of people took pains to point out that people were living in the countryside and saw that the environment had deteriorated, and that this was an important factor, too.

People gave a diversity of responses when asked where they had learned about the forest. People mentioned family and relatives, environmental education programs put on by park rangers, environmental programs on television, and in church. The most common response, however, was that they had learned "naturally" or from living and working in the countryside. Many people strongly expressed that their experiences and the things they had seen had taught them a lot.

a. INTERAnd where did you learn what you know about trees and forest, from whom or where did you learn about trees and forests and all this?
RESP Experience and wisdom, because it's not necessary for people to tell you things if someone has already seen it. By seeing the situation and through your lived experiences you see things.

b. [on where he learned about trees and forests] This I didn't learn. It was born in me from being raised in the forest, I became familiar with the forest, I knew and know how beautiful it can be, that which is natural. I was raised in the forest and I remember sitting at the base of a big fig tree and seeing a whole lot of birds, seeing a lot of things, all this has been planted in me since infancy...

c. INTERAnd where did you learn what you now about trees and forest?
RESP Because one lives. Well, there's a lot on television, a lot comes in from there. And also because one has lived in the countryside, for example if you are familiar with a forest and later come back and it's not there and the climate has changed, a radical change in these things, then you say, yes, there's been a change. That's how one knows that experience is worth a lot.

Forest Conservation and the National Park

Our study addressed forests in general, forests on private land, and forest conservation in the national park. Separating forest conservation on private land from park land is

important, because different contexts can be expected to influence forest values and the way they relate to other values. To engage respondents in discussions about the park, we asked them why they thought the park was created, what would the consequences be if the park were eliminated or had not been created, and who they thought benefited from the park. People generally understood that the park was created for the environmental benefits associated with forests, often citing some of the standard reasons why forests were important such as pure air, water, and wildlife.

It was also very common for people to note that the park was international in nature. Some of this relates to the fact that the park's official name is as an international park, not a national park, and the connection with Panama (where a sister park with the same name is located) was noted by some respondents. But it was common for respondents to note that the park received international funds, in some cases this was carried further to note that these funds were in exchange for environmental services such as oxygen or pure air.

a. [asked why the park exists]...I don't know much about this, but I know that the park has an agreement with various countries because Costa Rica doesn't have funds to pay for it, because there are a lot of other things that need to be paid for. Also, we know that it is to conserve nature, the animals and the plants, right?...clearly the park, the park project, I think it is a very important agreement. We're talking about many board feet of timber. Who knows how many millions of trees there are in those mountains?
b. INTER Why do you think the park exists?
RESP The way I understand it, there are agreements between some nations of the world that are worried about nature, as we say it, they are buyers of pure air, for that they come to buy in Costa Rica where we have plenty of it. ...In fact, Costa Rica is not in the position to conserve these lands; they paid many millions of dollars to expropriate people that were there.

In spite of some of this uncertainty about why the park was created, when asked what would happen if the park were eliminated or what would have happened if it had not been established, virtually all the respondents noted that colonists would have settled there, that forests would be cleared, and that to eliminate the park would be a serious setback to the forest and wildlife conservation success that had been achieved.

a. A lot of forest would be lost, and we would go there, you can imagine it. It would be deadly, because it has been a lot of work to maintain what there now is, if the park were eliminated it wouldn't only be the destruction of the forests but also the animals, and we would be left without water, because without forest there is no water.
b. If it weren't for the park, those mountains would be bare. There wouldn't be trees, without the park, all those mountains would be bare and what happened in this whole region would have happened there, a private zone, because there were already a lot of people in there and all these people had to leave the park, now they can't destroy any more. Those that destroyed were destroyed, because of this park, for that and many other things it is good, the authority of the parks. For one reason because they look out for deforestation, and for another reason they look after the wildlife. They like all these things, too and I think it is good, that the parks are good.

As the responses thus far make clear, people see many benefits from the park but also see it as an idea and activity that originated from the outside—one that never would have occurred if left up to the people from the region even though they received some benefits from it. The distribution of costs and benefits of parks between the wider national and global communities and local communities has been a key underlying factor for the conflict that has surrounded many national parks. Therefore we asked people to talk about who they thought benefited from the park. Among the beneficiaries noted were the park rangers themselves due to the salary they received, tourists, electric companies (using water from the park), and people from the world at large. Some also complained that local communities had received little from the park in terms of tangible development assistance, such as better roads and jobs, in spite of all the money that was being spent there. Many people also came around to saying that it was important to recognize that local people benefited too, although some were not clear in what way. Some saw these local benefits as being water, air, and wildlife. Others saw the promise of future development and investment in the region associated with the park.

a. I think the region, this whole region, benefits from the park. I say the whole region because if these forests were cleared, then this region here would be dry, the park is very big, if they cleared these forests-imagine it. ... For this reason I think that not just the employees benefit, but that we all should care for it, with our own love, right? Because it is benefiting us all.
b. Mostly the people that live here in the community, they are the primary beneficiaries because the park helps us with roads and protecting the water. And often people are coming here from many countries, there's a lot of tourism, and they can do research and all this can bring us benefits in the future, these research projects that they are doing and what they are learning about...every day there is more knowledge, that is why the park is important.
c. Well, I would say that, before I said that people were working and there were many people inside the park with the objective of growing and doing, but now, because of the park, personally I can't think of any benefit that I receive. Nevertheless, what I say is that it is something good for the future generations, and I say it is good if it is to benefit the future generations. And I also say it is good, because if not, who knows if they won't be familiar with even the animals, a peccary or a toucan or and of the fauna. I am familiar with all these. But those who come, the children and the grandchildren, won't know them if we destroy all of this. Where will these animals go?
d. I think that the park benefits everyone, not just Costa Rica and Panama, I think the whole world. Like I told you before, the big area is like a big lung that is purifying the air, I think we all benefit. If we can increase our tourism, you can build trails and people will come here on the weekend, and I think this will benefit a lot of people.

Not just Costa Rica but perhaps those that come here will experience the big change in the air, the environment that is so beautiful, so peaceful. When you breathe, there's no bad odors of cars, and you have no fear of the water, you can drink without fear. I think the whole world benefits from this park.

Hunting

Wildlife was a frequently mentioned forest value, with people generally recognizing that wildlife required forest habitats and placing importance on the continuing presence of wildlife, particularly so that their descendants could see them. Although there are still people who hunt in the region, most people felt that there was no longer any real need for anyone to hunt since there were other ways to obtain food.

a. I have seen a big change in the ten years or so I have lived here. The park was created in '82, and from '82 on there's been a big change in these very communities, or in the same people that have been living here. They are giving up a lot of things for conservation. ...And for those that hunt there's been a change in the fauna, there's been a lot of change in the fauna. A few years ago these people were 100% hunters, everyone hunted, it was a custom and a lot of people came here to hunt.

We were struck by the existence of a strong anti-hunting norm, with hunting often being associated with laziness:

a. INTERAnd why are some people not in favor of the park?
RESP I think that most of these people like to have fun; on Sundays go into the forest, into the forest, walk and hunt something, they're hunters. Thus for them it's a big problem. ...These people are against the park, but I don't know why they don't just stay on their farms and work—they like to be lazy and tramp around [*le gusta un poco la vagabundería*], of course before we had these liberties and it was great, you could go and find an animal and hunt it for your family.

Livelihood conflicts and resistance to the park

Conservation, especially when protectionist in nature, has some incompatibilities with the subsistence and economic demands of rural life. We asked a number of questions about when is it acceptable to cut trees, and when it is not, in an effort to see how people might trade off forest and environmental values with other values. These questions focused on what is the right or wrong thing to do under certain conditions. The responses reveal that people sometimes make tradeoffs between environmental values and livelihood values, illustrated through the mediating discourses used to come to terms with conflicts between incompatible or partially incompatible values. In other cases, people rationalized their actions or assigned blame to other people, such as outsiders and rich people. In still other cases, they adjusted their definitions of forest, trees, and conservation in ways that served their other interests. In all these cases, we see cultural models broadly drawn from Costa Rican public discourse being applied. Here we give five examples of mediating discourses that have arisen to deal with the contradictions between forest conservation and livelihood needs.

1. *Waste is wrong, but people should be able to cut trees for subsistence needs.* People were very clear that trees should not be cut down simply to cut them down, nor should they be wasted. On the other hand, to meet a real need, such as construction of a house, cutting of trees is seen as very acceptable as long as reasonable precautions are taken to reduce waste and protect water supplies. Some see this as a necessary evil, something that is painful but must be done. People in general recognize that their livelihood needs, including planting crops and building a house, require some tree felling. There is a general feeling that the negative aspects of this necessary forest clearing and tree felling can be made up for by planting trees.

a. If I had a good timber tree and I needed a house, and I tried to be as careful as I could to use all of this tree, cut it to the root to not waste anything, if it's somewhere it wouldn't cause harm, if it's not next to a spring, I think, why not [cut a tree]? And hopefully after cutting this tree I take care of the area, and plant more trees, some *amarillones* or something, or perhaps some fruit trees.
b. It can be good or bad [to cut a tree]. Often we're driven by necessity, perhaps for firewood, or to construct a dwelling, or for a fence for the farm. But you should only do it for need. Sometimes people cut and waste trees or cut a tree just because it bothers us—shades the road so it won't dry out and cars can't pass. For trees like this, we need to find some other solution rather than cutting it.
c. Well, the way we see it, we're *campesinos* who perhaps need to cut a tree to build a small house. But it's bad to cut a tree if you're hurting nature, perhaps if it's from a species in danger of extinction, and we're going to run out of it. But because of the benefit that it brings us, it's a real benefit to cut a tree to build a house. But if we're talking about exploiting timber—we need to stop that.

2. Tacotal, *or when is a forest not a forest.* One of the biggest conflicts is over clearing what is called *tacotal*, or young brushy second growth. People use this in a slash-mulch bean cultivation system (*frijol tapado*) that is generally considered sustainable both locally and scientifically (Thurston et al. 1994). We found considerable conflict between the forest authorities and community members over when a *tacotal* becomes a forest, and when it is acceptable to cut a *tacotal.*

a. ...for example a person has a little forest, what we call a *tacotal*, and they need to clear it to plant that area to have food for their children, for their family, well then I say do it, although it is painful to do it, if you don't have any other place you have to do it.
b. They shouldn't be so strict, because they've even taken people to jail. For planting beans! For cutting *tacotal;* not forest but *tacotal*! They gave him three months in jail.
c. [a park ranger] Can they clear *tacotales*, of course theycan. But what people call *tacotales* is really forest. .... [According to the law], if there's more than seventy trees per hectare, more than 15 cm in diameter, it's not *tacotal*, its forest. People sometimes say it's *tacotal* when there are big trees there. They call it a little *tacotal* but it's not a little *tacotal,* it's a big *tacotal,* it's a forest.

In addition to the dispute over when a forest is a forest, there is some question of what kind of tree counts as having legitimate environmental benefits. Fruit trees are often seen by rural people as being just as good as timber trees

a. INTERHave you planted trees on the land that you work?
RESP Yes, for example, perhaps not timber trees but if we're talking about fruit trees there are a lot of these. And to plant, for example, a fruit tree is the same or better, since they are dual purpose. They purify the air and also provide a harvest, to consume. Yes I've planted trees, of course I have.

3. *The rich and outsiders cut trees but we can't.* A common complaint of rural residents is that it is very difficult for them to cut even one tree when they need to make a house or a piece of furniture, yet they see logging trucks constantly carrying logs out of the community. They interpret and object to this in several ways. First, they describe themselves as being conservationists, being careful not to cut trees around springs and only cutting a tree when they have a true need for lumber, while they see outsiders as not caring at all about where trees are cut and engaging in something to enrich themselves not out of true need. Second, they believe that they have to engage in a long and complicated process to get permission to cut a tree for their own use, when the loggers can get permission easily because they are making lots of money and perhaps also can afford to pay bribes to facilitate the process of obtaining permits. They fit this into a general model about how things work in Costa Rica, where the poor *campesino* cannot even do what little he needs to do to meet his basic needs, while the rich know how to make things work for them and can do whatever they want. They also assign the responsibility for continuing forest loss to outsiders, seeing themselves as good stewards of the forest.

a. I have heard people talking: How can it be just and good? I fight that we don't cut a timber tree, but these people are fighting to go and cut them. These are the things I see, for example, to tell you something that is not just talk, I live in the countryside and have no place to get even a little board for myself, to build something, but we often see logging trucks coming in here and taking out the last trees that are left.
b. This is what happened here, the blessed loggers came and destroyed all this. They came and found these people in poverty, and thus, you could say, the people gave them the lumber because they wanted to earn a few cents. They didn't think this lumber was important, and they gave it to them, so what happened was that everything was destroyedBtotally. In this region, that is what happened, because the lumber has been taken out, and none of it was invested here. Here you can't find good house with fine wood, nothing like that; all the good wood from here was taken out. I don't know, this is the fight, to protect everything you can, that's right, protect.
c. Here in Costa Rica the laws have been stolen, see? Understand? Without money there's nothing, without money there's nothing ... this is the problem. *Don Dinero* [Mr. Money] drives everything. He passes above the law. With *Don Dinero* you pass over the laws. You don't have to comply, see? They make new regulations, and the result is that they pay a bribe because if there's money you don't have to comply with the law, no one does, anymore...
d. The lumbermen are always buying trees, they come and take them away. They buy from people with farms up there near the park, not from the park, but close to it. But if [the government] was really interested in truly not destroying forest they would do something so they definitely couldn't take any more trees, but they're still doing it.

4. *Property rights.* The Environment and Energy Ministry (MINAE) is the government agency that has long had responsibility for the national parks. In the mid-1990s, a separate agency that had responsibility for forest on private lands was dissolved (in part due to alleged corruption) and enforcement of the forest laws was transferred to MINAE. At the same time, the national parks were reorganized into conservation areas with responsibilities for managing both the parks and private lands adjacent to them, in an effort to promote regional conservation approaches that integrated parks with surrounding lands. As a result, government employees working out of the park ranger stations are responsible for enforcement of laws and permits for cutting trees on private lands. A number of people who accepted the importance of the national park objected to MINAE enforcing laws against tree cutting on private land. People accepted conservation in the park, on government land, but objected to interference on their own property.

a. The park is there to take care of the park, right? That which is above, but now they try to care for everything the same. For example here where we live, they caught us felling a tree even though it was on our land, right? I don't think this is good, because if I, for example, see someone is cutting a tree on the farm next to us, it's ok, right? It's not on my property.
b. INTERWhy are you and your husband not in favor [of conservation]?
RESP He's OK with it, I'm not. I don't like it. Because what you have isn't really yours. The forest that is yours, there will come a day when we won't be able to take out anything, we won't have anything. We'll be like those other countries where they take away from you what you harvest, and I say this is what is going to happen to us. I hope to God that it doesn't.

5. *Direct opposition.* The above forms of mediating discourse between ones private interests and conservation were by far the most common responses. They indicate an acceptance of conservation as a good thing at some level, but also an effort to reconcile it with other values. This was much more common than outright opposition to conservation, although in a few cases (mostly people who had owned land in the park that was expropriated and for which they did not feel adequately compensated) people directly opposed the park and conservation. In these cases, the mere mention of forests or the park stimulated responses voicing this opposition. But most people expressed agreement with the park but wanted some accommodation for their needs. It was easier to

get people to talk about other people's opposition to the park. While it is difficult to be sure what these comments mean, they do seem to indicate some of the things that are talked about in the community.

a. INTERAnd when you think about trees and forest, what is the first thing that comes to your mind?
RESP Well, the first thing that comes to my mind is that if someone wants to fell a tree to get some lumber, it's not permitted, right? And if they give you permission you can cut it and if not, no. This mean that you can't have what is yours. Well, sometimes we go to cut some lumber that we need and they won't give us permission, they don't let us do it, this is what I don't like.

Expressing personal outright opposition to the park was generally rare, but people often talked about other people being opposed to the park or complaining about it because they had been inadequately compensated for land or because of delays and fraud in compensation, because dogs or rifles had been confiscated when they were caught hunting in the park, or because the park was keeping the community from developing.

Discussion and Conclusions

The discourse of rural landowners and other residents adjacent to La Amistad International Park shows strong forest and environmental values. These values have developed relatively recently, and are often discussed using terms and metaphors that are drawn from global environmental discourse—a discourse to which they have been widely exposed to through the media and through government and NGO environmental programs. Global environmental discourse has played a key role in framing the way that local people think and talk about the forest and the environment, at least, and we believe beyond, when engaged in discussions with North American researchers.

There are several reasons why the global environmental discourse has had such an impact in this region. First, most residents of this region came from other parts of Costa Rica and have agricultural backgrounds. Many have little experience with the forest beyond having cleared forest for agriculture. As a result, local or indigenous forest values were not deeply ingrained in local culture, and in the absence of strong indigenous forest values and discourse, external forest values and discourses were readily adopted. Second, global environmental values are associated with international and national elites, and widely disseminated by the government, private and non profit groups, working in the region. With global environmental values associated with powerful groups, it is not surprising that they are hegemonic. Yet many people appeared to have only a superficial understanding of the global environmental discourse, suggesting that it is often not tied deeply into powerfully motivating cultural models.

Although the terms and metaphors for talking about forests and the environment clearly originate outside the local communities, in environmental institutions and related environmental messages, environmentalism is not seen to be entirely an outside entity. Environmental discourses resonated with people's direct experiences in observing the environmental consequences of the extreme level of deforestation that had taken place in the region, and people talked about observed environmental degradation in very specific ways in relation to water, climate, and wildlife. Although outsiders were seen as beneficiaries for forest conservation, many people took pains to note that they saw themselves as among the prime beneficiaries. Local environmental values are genuine, in the sense that they have been internalized by many people.

Campbell (2002) and Nygren (1998) have found that the two major ideologies in Costa Rican environmental discourses are: (1) protection of forests and wildlife as a common heritage for the world and future generations, and (2) conservation of forests as means to economic profit through ecotourism, forest extractivism, and biobusiness. There is also a less common counter narrative that is a populist, sustainable use discourse that emphasizes rural harmony with nature and peasant practices such as agroforestry and sustainable use of resources (Campbell 2002, Nygren 1998). The dominant discourses of protectionist conservation and conservation for large scale economic development create a fundamental conflict between environmental and livelihood issues in rural life. This conflict must be dealt with, both individually and culturally, and we found new discourses arising to bridge these conflicting issues, often drawing on other cultural models that are powerful in Costa Rica and reflect ideas of sustainable use.

Two of the mediating discourses, those related to wood for family use and young forests for slash/mulch agriculture, provide exceptions to protectionist ideals of forest conservation in order to meet basic livelihood needs. These discourses acknowledge the importance of forest conservation, but see livelihood needs as both minor in impact on forests and of fundamental importance to local people. In one case, although a person feels bad about cutting a tree, one has to do it. If it is done carefully and without waste, it is morally acceptable. In the other case, it is acceptable to clear young second growth because this is not forest, although there is a local rhetorical debate (in spite of the legal definition) between landowners and forest authorities about when such young second growth becomes a forest. Clearly, for the landowner, if one feels that it is not forest that is being cleared, a conflict between livelihood needs and forest values does not exist.

The third mediating discourse compartmentalizes the cultural models through rationalization or blame shifting. In this discourse, the blame for deforestation and its associated impacts rests on outsiders and loggers (often the same), and local uses of forests have no serious impact and are thus not part of the problem. The fourth discourse acknowledges the importance of forests and the legitimacy of their conservation as a public good, but uses property rights to object to government imposition of forest conservation on landowners in ways that impinge on their ability to use "what is theirs" as they need to or desire to. These discourses acknowledge

forest conservation as good while creating a legitimate place for rural landowners in the forested landscape.

Outright objection to forest conservation remains an option, although it is rare and generally qualified. This illustrates the power of forest conservation discourse and shows the anxiety that can be produced by rejecting such a powerful discourse (Strauss and Quinn 1997). Such outright opposition was most commonly noted in interviews when talking about the opposition of others, not the interviewee. In the few cases where people did talk about their own opposition, they often asked for the interview not to be tape recorded. Most of these people had suffered a direct loss as a result of the park, and expressed their anger and discontent more toward the park and park rangers than toward forest conservation in general.

If people hold strong forest values but qualify them in a number of ways to make space for their conflicting livelihood needs, then what is the impact of these values on their behaviors? It should probably not be surprising to find that it is mixed. There is general respect for the benefits of forests and their conservation, but some debate over the specifics of what constitutes good and necessary conservation. Wholesale forest clearing is now rare and people try to conserve forests when they can, especially in relation to watershed protection. This is a notable change from the wholesale clearing of the past. Yet local people continue to cut trees to meet their subsistence needs and to engage in traditional forms of agriculture, and their statements minimize the impacts that these have on forests. In the case of forest animals, however, it is widely agreed that they are important and that it is unnecessary for anyone to hunt them because they can buy meat with money earned from wage labor. A strong cultural norm against hunting has emerged, and, although hunting persists, those who do it are labeled as lazy people who are avoiding working to earn money to pay for food.

We began this paper by asking how environmental values are formed and what their significance is in rural communities in the developing world. Values and beliefs are embedded in mental and cultural models, which are formed from local and global influences through lived social and direct experiences and embedded in complex discourses that negotiate what are sometimes conflicting value spheres. Historically, in our study site, local people had developed forest-related cultural models rooted in the colonization process and influenced by national cultural messages that placed a strong moral value on small scale agriculture. In these cultural models, forests were seen as an obstacle to development and a source of money, timber and fuelwood for household use, and food from wild game. Colonists' main relationship to the forest was through efforts to clear it to establish farms, and forests were not an intimate part of farm life except perhaps as a source of wild game. In depth knowledge of forests and explicit forest values were not common. More recently, cultural models of forests have arisen that contain beliefs of the importance of forests to rural life and explicit environmental values. One source of this change is direct observation, for example, of declines in wildlife, scarcity of timber trees, and changes in rainfall and climate. But local people in the study area have also been bombarded with global messages about the importance of forests and biodiversity and conservation actions such as national parks and forest laws. Global environmental discourses played a dominant role in setting the terms and ideas that local people began to use to discuss the forest. In these global environmental discourses, forest have often been separated out from livelihood issues in environmental protection discourses with very explicit environmental values. The distinct environmental values associated with forests in the new global models differed from earlier local cultural models of forests, in which forests were a minor subset of colonization and farm establishment models that had few explicit values attached to them. These new discourses came from centers of power and thus were very influential. But local people have continued to face livelihood issues incompatible with many aspects of the new global environmental beliefs and values, and new mediating discourses have developed that create a morally acceptable place for people and their livelihood needs even when protectionist discourses are widely incorporated into local mental and cultural models related to forests. The result is unique local environmental beliefs and values that legitimize both forest conservation and livelihood needs and allow local people to negotiate a path that includes both.

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