

CONSTRUCTING SPACES, CHANGING PRIORITIES:
CONSERVATION AND TOURISM IN THE CALAKMUL BIOSPHERE RESERVE

by

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ABSTRACT

Natural protected areas (NPAs) are created for the protection of biodiversity and natural resources. In NPAs, diverse social constructions of nature come together, representing the specific and often contrasting values of disparate interest groups. The establishment of the Calakmul Biosphere Reserve in Campeche, Mexico fueled social conflict between groups in the region, because its borders cut across existing *ejidos* (communal lands). The incongruence of policies and actions related to land management in Calakmul presents a particular case where national and international interests are imposed upon local conservation and development concerns. Communities have responded in multiple ways, often resisting new policies or programs, but at times taking advantage of new resources, perspectives, or knowledge. This study analyzes how the differing attitudes of local populations and conservation-oriented NGOs toward conservation, tourism, and towards each other affect how sustainable development activities are carried out within this unique social space.

CHAPTER ONE: BACKGROUND AND INTRODUCTION

1.1 Natural Protected Areas

In the last 30 years, the number of natural protected areas (NPAs) around the world increased tenfold (Zimmerer 2006:64).¹ The recent rise in number of protected areas coincides with an increased concern for the planet's biodiversity and natural resources, and the rise of alternative tourism or eco-tourism. The concerns, frameworks, and fields of action that produce NPAs are constructed in Northern industrialized countries, but most often are focused on Southern rural regions of the world.

It is within this context that I carried out my research in the Calakmul Biosphere Reserve in Southern Campeche, Mexico (Figure 1.1). The goal was to examine a problem central to the policy discourses in NPAs, in the context of the Calakmul Biosphere Reserve (CBR). The problem to be addressed is centered on the question: How are the conservation values that are represented in NPAs accepted or rejected by people living in or near those areas? To address how this problem arose and played itself out in the CBR, a series of other questions are asked throughout the thesis: Given the important role of the Mexican government and conservation non-governmental organizations (NGOs) in establishing the reserve, what were those groups' explicit goals and what types of knowledge influence them? Did local populations share those goals and understanding of the environment? How did the convergence or divergence of goals

¹ Across the globe, there are at least 105,000 natural protected areas (West et al. 2006) covering over 11.5% of the world's land area (Naughton-Treves et al. 2005).

and understandings of forest conservation get played out in the development of the NPA? How did the divergent values of nature held by NGO leaders and those of the local populations change over time after the CBR was established? Did this improve the probability of the NPA to integrate the goals of those who formed it with those who live in it?

1.2 Analytical framework

In NPAs, like the CBR, the discourse used to support protected areas is most often based on biological or economic statistics. Yet, the spatial and physical boundaries of NPAs are not inherent to the earth's landscapes, but are human creations that reflect culturally-specific values and social constructions² of nature. In particular, governments and large-scale conservation-oriented NGOs often impose international constructions of nature and external visions of forest use and protection on communities living in or near NPAs. Communities have responded in multiple ways, often resisting new policies or programs, but at times taking advantage of the new resources, perspectives, or knowledge.

Biosphere reserves attempt to be much more integrative of local concerns than previous people-free park models, yet they continue to represent an imposition of power in which space is partitioned to protect the economic and emotional values of foreign or international interests. Biosphere reserves and other NPAs promote the privatization and

² In this case, *social construction* refers to “an idea or institution that encapsulates certain widely accepted values” (Igoe 2004:69). Social constructions of nature, therefore refer to the culturally-specific ways in which societies view and value nature.

commodification of landscapes, reflecting the view that common property systems can be obstacles to progress and so-called 'modern' values (Igoe 2004). Local valuation systems of nature and natural resources have yet to significantly affect the way conservation is carried out on a global scale. What is apparent both in the research presented here and in a review of academic literature is that the imposition of any protected area model onto a local model of natural resource use has the potential to create conflict at a number of different levels (see also Breunig 2006; Haenn 2005; Igoe 2004; Negi and Nautiyal 2003; Sundberg 1999; Swartzman *et al.* 2003; West *et al.* 2006).

I draw the analytical framework for this thesis from the work of social scientists, particularly in the fields of cultural and political ecology, who have addressed the question of how communities living in or near NPAs have either contested or incorporated conservation in their everyday lives (Agrawal 2005; Igoe 2004; Sundberg 1999).

Jim Igoe (2004) did extensive work studying the global-local interactions in the Tarangire National Park in Tanzania. African conservation has been built based on the myth of a "pristine wilderness" (Denevan 1992), and the preservation of certain large game animals. In addition to myths about landscapes, fantasies about native peoples influence the way conservation is applied throughout the continent. Therefore, Igoe's book asked the question, "Do Western fantasies about the Maasai and the environment actually affect communities" (Igoe 2004:18)? The Maasai, who were traditionally herders, previously managed the landscape of the Rift Valley through open-access systems that mimic the seasonal migrations of grazing wildlife (*Ibid*:47). The national

park created a direct conflict with Maasai cultural and ecological values, because it restricted herding rights within its boundaries. The park and its supporting 'Good Neighborliness' program crowded people into marginal areas, thus making it impossible for pasture to recover and impoverishing people so that they overuse natural resources (*Ibid*:28-29, 66-67).

Another approach to analyzing how external ideals of nature affect local communities was described by Juanita Sundberg (1999), who did research in Maya Biosphere Reserve in northern Guatemala. The reserve served as a space for what Sundberg called a 'conservation encounter' (*Ibid*:7) between North American NGOs and people living in the Peten forest of northern Guatemala. "North American conservation NGOs constructed visions of what nature should look like, based upon landscape aesthetics, cultural values, technical training, and experience in the field" (*Ibid*:5, stress in original). Hence, NGOs privileged certain landscape visions that Sundberg defined as "culturally and historically specific ways of seeing the world and one's place in it (*Ibid*:vii)." Sundberg compared the conservation efforts of NGOs to the Christian missionization processes (*Ibid*:5) that have historically occurred throughout Latin America. Both are processes that have benefited certain groups, but further marginalized others.

Finally, Arun Agrawal's book *Environmentality* (2005) looks at how changes in governmental regulation of forests in Kumaon, India consequentially created transformations in how people came to think and act in relation to their environment over time. Whereas in the 1920s, certain groups of villagers were burning forests in protest of

environmental regulation, by the 1990s, the same groups were vigilant advocates for forest conservation. Agrawal's concept of environmentality draws from Foucauldian governmentality, and refers to the "knowledges, politics, institutions, and subjectivities that come to be linked together with the emergence of the environment as a domain that requires regulation and protection (*Ibid:226*)."

Rather than assign credit or blame to states, markets, or communities for the degradation/preservation of the environment, Agrawal considers how new knowledges about the environment shape the way people understand and relate to it (*Ibid:215*).

1.3 Case Study

1.3.1 Methodology of Research

The information used for this study is based largely on field research that took place during a six-week period in the summer of 2007. The research itself was conducted in two parts. The first part was conducted in the cities of Mérida, Yucatán and Campeche, Campeche from June 28 to July 9, 2007. While there, I examined literature, policies, and demographic data concerning conservation and sustainable development in the region of the southern Yucatán Peninsula. Information on these topics was found in the offices of NGOs, in university libraries, and in the regional office of INEGI (*Instituto Nacional de Estadística Geografía e Informática*). In Mérida, I conducted semi-structured interviews with five NGO directors who work on projects in or around the CBR. The interviews took place in the regional offices of Pronatura Península de Yucatán, and The Nature Conservancy-México. This work was done to understand how

the organizations perceive eco-tourism as a conservation tool and/or livelihood strategy, and to explain how local communities made input into their programs. While in Mérida I also interviewed and visited with a sociologist well-known for his publications on Yucatán. I was also given access to the library at La Universidad Autónoma de Yucatán, where I visited every day to review local authors' research.

After spending ten days in Mérida and a short trip to the City of Campeche, I traveled to the Calakmul *municipio* (municipality) where the second stage of the project took place in the Calakmul Biosphere Reserve (CBR). From July 9 to July 31, 2007, 33 semi-structured, open-ended interviews were conducted with villagers from 10 ejidos that are located either inside or on the border of the CBR. The communities were selected based on their proximity to the main eco-tourism and archaeological attractions in the reserve. The majority of interviews were held with heads of households who have taken different economic approaches to sustaining their families' livelihoods. However, a conscientious effort was made to interview both men and women. People were asked about their work, as well as their perceptions of the forest, tourism, conservation, and NGO or governmental support. The goal of the interviews was to better understand the diverse perspectives and economic strategies people took after the reserve's creation.

In addition to the information provided by interviews and written sources regarding natural protected areas, this study also analyzes the discourses used. In discourse analysis, the goal is not to prove the validity of the information presented, but rather to look at what language and arguments are used and how that is informed by the speaker or author's position (Potter 1997). Discourse analysis relies on a perspective of

language as constructing and organizing social reality. Therefore, discourse analysis is an interpretive process which relies on close analysis of specific texts (Tonkis 1998:254). In this case study, the analyzed texts include spoken as well as written texts.

Table 1.1 Categorization of Interviews

Categorization of Interviews	
NGO Program directors	5
CONANP reserve directors	2
*Residents of Calakmul ejidos	33
- women	14
- men	19
TOTAL	40

1.3.2 Research Site

The majority of Mexico's southern tropical forests are inhabited by people, and a large portion of the forests are located on communally-owned lands, or *ejidos*. Biosphere reserves have been established in the southern forests as a way to integrate local community development into the protected area concept. In the Calakmul Biosphere Reserve in southern Campeche, Mexico (Figure 1.1), international biodiversity protection programs have redefined the region's political, economic, and social boundaries. External perceptions of the environment have changed how local people from certain ejido communities view and value the forest. Because of the region's rich biological and cultural diversity, eco-tourism is considered to be a promising activity to support both biodiversity conservation and sustainable economic development.



Figure 1.1 Location of the Calakmul Biosphere Reserve

The CBR was founded by the Mexican government in 1989 for the protection of the biological and cultural wealth of southeastern Campeche. It was recognized by UNESCO's Man and Biosphere Programme in 1993, and became a World Heritage Site in 2002 (CONANP 2008). Situated at the base of the Yucatan peninsula, the CBR is the largest biosphere reserve in Mexico, covering 723,185 hectares (CONANP 2008). The forests of Calakmul are home to thousands of species of animals and plants, some of which are endemic to the region. Due to the region's relative inaccessibility and shortage

of water, Calakmul is home to one of the best preserved forest areas in the Yucatan peninsula (Galindo-Leal 1999). In addition to its diverse biological elements, CBR's forests shelter thousands of ruins from the Preclassic and Classic Maya civilizations (INE 2000). All of these features make Calakmul a key area for global conservation efforts.

The human demographic in Calakmul is what makes it a distinctive case study. At the time of the CBR's creation, there were about 15,000 people living in the region (Boege 1995), and the number grew to almost 24,000 by the year 2000 (INE 2000:41). Many people moved there following different industrial booms and government-sponsored agricultural migration to the southern rural frontier (Haenn 1999). With the reserve's establishment, all intensive activities that were previously encouraged by the government suddenly became restricted or completely prohibited. Calakmul rapidly converted from a vast frontier for agriculture, *chicle* harvesting, and timber extraction to an international reserve for biodiversity protection. During the 19 years of the reserve's existence, both the concept and reality of conservation have become an imposed necessity for the people of Calakmul.

In the CBR, laws governing forested communal lands and NPAs reflect the country's varied political interests and macro-economic neoliberal policies. The combination of confusing and contradictory policies and actions in the CBR present a particular case where national and international interests intersect with local conservation and development issues. The rhetoric used for the imposition of NPAs in southern Mexico and around the world is that conservation will essentially create economic and biological benefits at the local, national, and international levels. More often than not,

the policies that create and manage protected areas are decided upon in conference rooms far from the regions they affect. Therefore, the benefits generated by biodiversity conservation are most visible for people whose livelihoods are not directly affected by the establishment and enforcement of NPAs.

The case study in Calakmul offers a conservation setting that is specific due to its geographical location, the region's social and political contexts, and the timeframe of my fieldwork. However, it is one of many cases around that world that can be connected to a global pattern of influence based on international environmental concerns (Igoe 2004). For that reason, the goal of this thesis is not to show how the CBR is distinct from the many case studies carried out in NPAs around the globe. Rather, through this study, I hope to illustrate how the particularities of the CBR are a product of national and foreign interests, yet the lessons learned may offer insight for those groups who advocate the continued growth of a global conservation network that transforms and controls rural areas across the planet.

1.4 Chapter Outline

Throughout the thesis, each chapter addresses certain themes that are considered in order to understand how the processes of 'global' conservation affect individuals living and/or working in the CBR. Chapter One begins by introducing the problematic of NPAs, as well as the research questions concerning the Calakmul Biosphere Reserve. The chapter continues by giving examples of previous work in NPAs that serve as an analytical background for the research presented from the CBR. The chapter also

includes a brief section of background history and information on the research site, a description of the methodology of data collection and its analysis, and finally, an outline of the subsequent chapters.

Chapter Two traces a conceptual and practical history of natural protected areas. This history is essential for the case study in Calakmul, because it exemplifies how the conservation ideals that are upheld in the management of NPAs like the CBR are not products of indigenous or local philosophies. Rather, the history of NPAs began with the European Enlightenment-era belief that humans and nature are distinctly separate. This history continues into the present-day implementation and imposition of NPAs in diverse geographic locations throughout the world. The chapter also shows how the biosphere reserve model for NPAs was created to link the two relatively recent international concerns over biodiversity protection and sustainable economic development. Biosphere reserves thus became spaces where external interest groups, especially Northern-based conservation-oriented NGOS, to use their assumed role as ‘experts’ to promote activities, such as eco-tourism, that support their particular landscape visions (Sundberg 1999), or culturally specific notions of natural places.

Chapter Three discusses the background of migration patterns, international interests, and national environmental politics that have created the unique social and environmental history of the Calakmul Biosphere Reserve. Here, I show how ‘global’ concerns for environmental protection combined with national policies in Mexico that directly influenced the creation and management of the CBR. The chapter illustrates the conflicts in local communities that occurred during the first years of the CBR due to

confusing and contradictory land tenure regimes. The chapter especially draws attention to the large number of external actors and the heterogeneity of local actors whose interests are either represented or overlooked in the use of lands and forests in the region of Calakmul.

In Chapter Four, I focus specifically on the relationship between two conservation NGOs, The Nature Conservancy (TNC), and Pronatura Península de Yucatán (PPY), and people living and working in the CBR. By doing so, I aim to show how the conflicts and/or cooperation between those who use, regulate, and influence the use of land in Calakmul have essentially changed the way certain individuals view and value the forest. This chapter addresses three main sets of questions;

- How do conservation NGOs view the potential of local people to participate in eco-tourism and conservation activities? How do NGOs use their role as ‘experts’ to influence and/or control the forest and forest-use?
- Do people living within the CBR receive support from conservation NGOs their attempts to use alternative ‘sustainable’ livelihood strategies such as eco-tourism? What are people’s reasons for/against participating in alternative livelihood activities like eco-tourism?
- Does the imposed restructuring of nature via the CBR (hence the influence of global conservation efforts) change how people value their land and its resources?

The fifth and final chapter includes a discussion of the questions addressed in Chapter Four. Conclusions are drawn to show how the case study in the CBR is a result of imposed international visions of forest use and protection. The chapter especially points to the fact that in conservation settings like the CBR, the large diversity of both local and external actors is a fact that should neither be overlooked nor simplified.

Discourses used by different actors to promote and control forest conservation portray their distinct cultural values and histories, yet this research aims to show that local and global conservation values in the CBR are not as contradictory as some groups perceive them to be.

CHAPTER TWO: THE CONCEPTUAL BEGINNINGS AND PRESENT-DAY IMPLEMENTATION OF NATURAL PROTECTED AREAS

2.1 Introduction

Natural protected areas (NPAs) are socially constructed spaces, created for the protection of biodiversity and natural resources. As defined by the World Conservation Union (IUCN), NPAs are “areas of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means (IUCN 2008). These protected spaces create physical boundaries, but also serve as an interface for differing perceptions and social constructions³ of nature and the environment. The visions of nature that are represented in NPAs have their philosophical underpinnings in eighteenth century European Enlightenment beliefs that humans and nature are distinctly separate.

The conceptual model for the implementation of NPAs has evolved from the exclusionary model of people-free parks, to a more integrative approach used in biosphere reserves that attempts to combine the goals of economic development and biodiversity conservation. An essential point to note is that the concepts used to necessitate and facilitate the conservation of nature through NPAs come from European and North American constructions of nature, yet these modes of thinking and controlling the environment have been imposed on communities throughout the Americas and diverse areas around the world. Accordingly, the purpose of this chapter is to trace the

³ The concept of *social construction* is defined in the Chapter One. The idea is also similar to what Sundberg (1999) refers to as “landscape visions,” or the way a group believes that nature *should* look like (*Ibid*:5).

conceptual and practical history of NPAs, from their theoretical bases in the European Enlightenment to their present-day implementation in rural areas across the globe.

2.2 Natural Protected Areas in History and Concept

The concept of ‘natural protected areas’ stems from the idea that we, as humans, can set aside demarcated areas in the defense of what we consider to be some form of valuable ‘nature.’ However, this idea is problematic in both an epistemological and practical sense. ‘Nature’ is described by Raymond Williams as “perhaps the most complex word in the English language (Williams 1983:184).” Two common conceptions of nature are that it implies ‘the essence, or essential quality of some thing’, or it can refer to “the world itself, the environment, or the space in which one lives (Wainwright 2008:5).” For most practical reasons, the “nature” contained in NPAs “is defined in terms of the absence of culture (Sundberg 1999:64),” whereas the cultures that surround NPAs are generally defined “in terms of their appropriate or inappropriate use of nature (*Ibid*:64).”

The inauguration of the protected area concept for the conservation of ‘nature’ and ‘natural’ landscapes is often attributed to the declaration of the first national parks in the United States and Australia in the middle of the 19th century (Rivas *et al.* 2006). The national park model originated with the romantic ideals of necessity to maintain ‘nature’ as a wild and pristine place. The model has also historically mirrored Western concepts of the distinct separation of nature and culture (Seeland 1997). Currently, the discourse used to establish and maintain NPAs is based on Western biological or economic ‘expert’

knowledge. However, the conceptual separation between humans and nature preceded the first national parks, and can be traced back to 18th century philosophies of the Enlightenment era (Negi and Nautiyal 2003).

2.2.1 Enlightenment and Romantic visions of nature

“250 years ago, Americans and Europeans considered the term ‘wilderness’ as desolate, deserted wasteland, and a place to which one only went against one’s will (Cronon 1996:8).” That theme changed in the 1800s when enlightenment thinking was combined with the birth of American romanticism. The enlightenment era constructions of science and reason brought a means by which humans could ‘tame’ the ravaging wilderness that was nature. It also set up a severe dichotomy between human reasoning and nature. Nature was conceived as the essentially static object of human observation, and reason became the mode of observing natural things (Williams 1983:188).

Romantic visions of nature built on the human-nature dichotomy and converted the concept of a wilderness separate from human settlements into a place of real-life Eden (Cronon 1996; Spence 1999). The problem with this view is that it does not leave any ethical or sustainable place for humans in nature, and it completely ignores the different ways in which humans may actually contribute beneficially to a natural system (Cronon 1996). Breunig (2006) noted how these historical constructions of nature continue to influence the establishment of more recent NPAs;

“Today, both Romantic and Enlightenment natures are central to the concept of natural protected areas and are visible in the maintenance of these areas. The Enlightenment nature is a biodiversity hotspot, a representative ecosystem, or an

endangered species. Natural protected areas are where a living creature or system of value is saved, studied, and propagated. The Romantic nature is a tourist destination and a playground. Natural protected areas are of particular scenic beauty and extreme landscapes where urbanites can go to escape for leisure and recreation [Breunig 2006:60].”

These concepts have affected how we envision and therefore manage the ‘nature’ within NPAs,. Throughout the history of NPAs, Romantic concepts also influenced how ‘nature’ and its protection entered into the political agenda of nation-states and international conservation efforts.

2.2.2 Creating and Controlling Wilderness in the Americas

It was during the 19th century that the conservation of certain landscapes and resources became a main part of the political agenda in the United States and parts of Europe. This was a period of history that was mainly concerned with industrial and technological progress. By this point in time, a vast portion of North America’s landscape had been transformed into urban concrete due to expanding industrialization and urbanization (Spence 1999). To protect parts of remaining ‘nature’ or ‘wilderness,’ early conservationists, together with federal and state level governments, selected areas of the ‘natural’ landscape to be set aside for the conservation of natural resources and recreation. National parks were created as ‘natural’ areas where humans could escape from the emptiness of urban life. However, the appreciation of nature and wilderness that eventually led to its protection first required that it be threatened by capitalist growth (Breunig 2006). In the words of Adams and Mulligan (2003) “Ironically what capitalism destroys, Western culture personifies as more precious (29).”

As urbanization continued following the depression era and World War II, the illusion of wilderness that was created by setting aside ‘pristine’ natural areas outside urban settlements was not questioned in early conservation politics (Hirt 1996). Instead, the debates questioned how the areas set aside for ‘nature’ should be managed. Conservationists held the conception of nature as a commodity, and something that must be ‘conserved’ through human management. Preservationists, on the other hand, were opposed to commodifying nature, and believed that under no circumstances should nature be ‘managed’ by humans (Fox 1981). The establishment of people-free parks was based on American preservationist ideals.

Somehow, the popular history of these first parks has maintained their identity as part of the “quintessential wilderness experience,” but has lost almost all reference to the systematic and violent expulsion of the people native to those regions (Spence 1999). Often, NPAs that are envisioned as ‘natural wonderlands,’ were in fact created in processes that were far from natural. The cruel reality of the ‘wilderness’ contained in NPAs is that it was only made wild in the imagination of elite groups of people. To create that reality was to forcibly displace many native people from so-called ‘natural’ areas.

The idea that ‘nature’ in the Americas was human-free had roots in colonial encounters and beliefs of an uninhabited frontier in the New World. In fact, throughout much of the Americas, the region’s prior environmental history was overlooked upon the arrival of the Europeans. The ‘pristine’ nature that was described by colonists had actually been manipulated by many groups of people for thousands of years. In the

Americas, pre-Columbian societies altered their landscapes through the creation of roads, agricultural fields, and urban areas (Denevan 1992). To maintain the vision of the new world as 'pristine,' native people were generally believed to live in complete harmony with nature. In several cases since the European arrival to the Americas, native people have been considered as simply another attribute of local biodiversity and placed in a similar category to local animals and plants (Rivas *et al.* 2006). By reducing the idea of native communities to a sub-human level, the 'pristine nature' of the 'wilderness' was maintained in both the political and social imaginaries of the colonists. Unfortunately today, such de-humanization of indigenous peoples continues to some degree in areas where NPAs are established through top-down approaches that belittle the importance of indigenous knowledge of nature, and consider local people as causes of resource degradation or obstacles to 'real' biodiversity conservation (Swartzman *et al.* 2000).

2.2.3 NPAS and the World Conservation Union (IUCN)

Until recent years, the North American preservationist conception of conservation that created human-free parks served as the basis for most protected areas worldwide. Similar to the colonial model of development, the Western model of conservation was uprooted from North America and parts of Europe and was transplanted to various areas around the world (Negi and Nautiyal 2003). The creation of national parks has often been used as an instrument of colonial rule (Igoe 2004; Ragarajan 1996; Stevens 1997). For many people, the establishment of national parks and other exclusionary NPAs has

meant further marginalization and poverty due to forced expulsion from lands and denied access to resources (Wells and McShane 1996).

Nonetheless, over the past 30 years, the area of land under legal protection has increased exponentially. Around the world, there are at least 105,000 natural protected areas (West et al. 2006). Terrestrial protected areas cover 17.1 million km², or 11.5% of the world's land area (Naughton-Treves et al 2005). Of this area, approximately 6.4 million km² (4.3% of the land surface) are found in categories that can impose considerable restrictions on human use and occupancy (West et al. 2006).

2.2.4 IUCN Categories of NPAs

Most nations around the world use the categories established by the World Conservation Union (IUCN) to classify the NPAs within their borders. The World Conservation Union was founded in October 1948 as the International Union for the Protection of Nature (or IUPN) following an international conference in Fontainebleau, France. The organization changed its name to the International Union for Conservation of Nature and Natural Resources in 1956 (IUCN 2008). Currently, the IUCN is the largest network of protected areas and conservation partners in the world. The organization's mission is "to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable (IUCN 2008)."

The IUCN's Protected Area Programme promotes NPAs through what is known as the World Commission on Protected Areas (WCPA). Its goal is "the establishment and

management of a world-wide representative network of terrestrial and marine protected areas as an integral contribution to IUCN's mission (WCPA 2008). The WCPA does this by helping governments and others plan and manage NPAs, and by persuading public and corporate donors of the values of NPAs to increase international investment in them. However, to be included in the IUCN's worldwide category system of NPAs, national governments have to fit their protected lands into six international categories (see Table 2.1) that separate people from their surroundings (Chape *et al.* 2003).

Table 2.1 IUCN Protected Area Category Descriptions

IUCN Protected Area Category Descriptions
I (a) Strict nature reserve: managed mainly for science (b) Wilderness area: managed mainly for wilderness protection
II National park: managed mainly for ecosystem protection and recreation
III National monument: managed mainly for conservation of specific natural features
IV Habitat/species management area: managed mainly for conservation through management intervention
V Protected landscape/seascape: managed mainly for landscape/seascape conservation or recreation
VI Managed resource protected area: managed mainly for sustainable use of natural resources
* Source: 1994 <i>Guidelines for Protected Area Management Categories: Part II: The management categories</i> . IUCN Publications Service Unit, Cambridge, UK.

The externally imagined set of categories has limited regard for national or local views of nature. What the NPA categorization system has done is to mainstream Western conceptions of nature into a worldwide conservation network. The conservation network promoted by IUCN and WCPA has spread across the globe transcending scales and

blurring the boundaries between governments, nonprofit organizations, corporations, multilateral lending institutions, and so-called civil society. The IUCN currently has more than 1,000 member organizations in 140 countries, including over 200 government agencies and over 800 NGOs. IUCN's work is supported by 10,000 volunteer scientists and 1,100 professional staff in 62 offices and hundreds of partners in public, NGO and private sectors around the world (IUCN 2008).

2.2.5 NPAs built from the top-down

As conservation programs and NPA strategies are designed at the international level, they make possible the commodification and territorialization of space and resources when implemented at localized sites on the ground. The categories defined by the IUCN limit the degree to which humans may “appropriately” interact with nature. Arguably, one of the most severe problems with NPAs is that they are more often than not, top-down approaches to conservation, based on the belief that global conservation ‘experts’ are needed to protect the vast landscapes and resources of the planet that are in danger of extinction. A quote from Redford *et al* (1998) from the Parks in Peril Program exemplifies this belief. They stated that “Parks have been created by ‘top down’ forces, but that is the only way they could have been created. ‘Bottom up’ *in situ* efforts have created... nothing of a scale sufficient to preserve large portions of ecosystems (*Ibid*:463).”

This belief in the need for large-scale or ‘global’ solutions has been essential in the argument for creating NPAs. The people-free park approach continues to be used in certain organizations’ agendas for the promotion of NPAs. However, in the last three decades, it has become clear to some social scientists (West *et al.* 2006) that the exclusion and displacement of local people from protected areas has not only increased poverty, but has also failed to adequately conserve biodiversity. This realization came at a time when industrialized countries were experiencing an increased awareness of so-called “*global* environmental problems” and threats to natural resources, resulting from changing social and economic conditions, such as rapid population growth, technological advancements, and poverty.

It was during the 1960s-1970s that NPAs began to be rapidly established around the globe. At the same time, it became apparent to many that the development movement based on post-World War II economic theories was not fulfilling its promise of creating a minimum standard of living for all people around the world (Escobar 2004:209). At the United Nations Conference on the Human Environment in Stockholm in 1972, the idea of viewing environment and development as an integrated whole was discussed for the first time by an international congress (Fisher 1993). Shortly after, in the 1980s, environmental damage was widely viewed as a threat to human survival, thus making it an essential topic in politics, science, and popular culture. It was at this time that the concepts of biodiversity and sustainable development fully merged into conservation discourse (Adams 2004).

2.3 Biodiversity Conservation and Sustainable Development

2.3.1 Biodiversity and its Conservation

The recent rise in number of protected areas coincides with an increased concern for the planet's biodiversity. The term 'biodiversity' was once solely considered by ecologists and biological scientists, but has since moved to the center stage of global and often highly political environmental debates. Biodiversity, or the diversity of genes, species, and ecosystems, is hailed by conservation biologists and ecologists to be a key factor for the survival of the planet (Wilson 1992). Therefore, the concept of biodiversity protection has become emotionally linked to the security of life on Earth. The planetary scale used to measure biodiversity loss and other environmental 'problems,' has created a need for global 'experts' to make global 'solutions' (Esteva and Prakash 1998:23). Currently, NPAs are the most common 'solution' used to protect the planet's biodiversity.

The desire to protect the earth's biodiversity, or diversity of species, stems from past historical attempts to protect certain species for emotional or productive purposes. In early conservationist thinking, the conservation of certain game animals and the extermination of 'unwanted' or 'pest' species was common (Adams 2004). The protection of prize species in all parts of the globe was largely based on emotional values of colonizing elites and foreign tourists. Emotional ties to keynote species also produced later movements to 'save' specific species from extinction. Global recognition has been brought to certain species based on popular movements. These movements are often

reinforced by internationally-recognized (i.e. IUCN) endangered species lists, which are in fact very politically based.

The commodification of certain species has generated millions of dollars for global conservation networks (Adams 2004). During the period from 1990 to 1997, U.S. government agencies, private foundations, and nongovernmental organizations (NGOs) invested \$3.26 billion in biodiversity conservation in Latin America alone, with 35% of the total dedicated to protected area support (Naughton-Treves et al. 2005:222).

The biological diversity within a particular ecosystem has a lot to do with the amount of solar energy it receives. Therefore, biodiversity tends to be highest in geographical locations nearest to the earth's equator (Wilson 1992). Tropical rain forests located in developing countries represent much of the world's biological diversity, and have become key places for present-day international biodiversity conservation efforts (Spiteri and Nepal 2006), especially in recent years. Naughton-Treves et al. (2005) described that because of their great species richness, tropical rain forests have received a disproportionate emphasis in conservation campaigns (*Ibid*:226).

Biodiversity has become a commonly accepted and widely used term in the Northern industrialized nations. Its protection has prolonged and expanded the global trend of establishing NPAs, especially in tropical regions less industrialized countries. The protection of biodiversity is an action and also a reflection of Western capitalist valuation systems. Perhaps the clearest example of this is exhibited in the "debt-for-nature" swaps made by international conservation NGOs with governments in tropical areas. These swaps are "voluntary transactions through which an amount of hard-

currency debt owed by a developing country government (debtor) is exchanged by the creditor for financial commitments to conservation by the debtor (TNC 2007).” This process literally creates banks for and out of biodiversity and natural resources. While the concept of biodiversity is used as the justification for protecting tropical forests, the concept may actually leave out many groups’ knowledge of nature and the environment who live and work in the protected regions.

2.3.2 Sustainable development

Sustainable development is important in the argument for biodiversity conservation, since many of the so-called ‘biodiversity hot-spots’ around the globe are located in developing nations and have many people living in or near them (Wilson 1992:322).

The idea of sustainable development became part of the international conservation agenda in 1987. The Prime Minister of Norway, Gro Bruntland, hosted an international commission that increased international and governmental awareness of the need for a rapid and extensive proliferation of “sustainable development” strategies (Fisher 1993:2). The idea that expressed this concern appeared in the introduction of the 1987 Bruntland Report titled *Our Common Future*: “Humanity’s...doings are changing planetary systems, fundamentally. Many such changes are causing life-threatening hazards. This new reality, from which there is no escape, must be recognized – and managed” (Brundtland 1987:1). The same document produced the most commonly used definition of sustainable development: “Sustainable development is development that meets the

needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland 1987:43).

Following the commission, governments and international organizations quickly adopted the term as a new catch phrase. Leading the trend was the United Nations (UN) and its creation of the UN Division for Sustainable Development. The concept grew even more popular following the 1992 United Nations Conference on the Environment and Development (UNCED) or “Earth Summit.” Held in Rio de Janeiro, the conference was centered on the themes of environment and sustainable development. The resulting document of the Earth Summit was Agenda 21, the Rio Declaration on Environment and Development. This document proposed a plan of action for sustainable development that was agreed to be followed by many governments and NGOs across the globe (Michaelidou *et al.* 2002).

The problem with sustainable development is that it is a very ambiguous concept. The broad nature of the term makes it prone to use by many disparate groups from local activists to multinational corporations (Bendell 2000). The concept is included in government documents, and is used widely and without much controversy by NGOs involved in conservation and development. The conception used by different organizations generally expresses some combination of the goals of economic, social, and political development that are consistent with the preservation of the environment (Weaver *et al.* 1998). However, multiple meanings are involved in the understanding and use of the term *sustainable development*, causing potential disagreement and confusion both within and across different groups of people.

One source of potential contradiction stems from the different values and expectations people place on the integration of conservation and development (Michaelidou *et al.* 2002). Two opposing views on sustainable development are: those who view the protection of ecosystems as the primary goal and suggest development as a tool to enhance conservation, and those who place priority on the well-being of local communities and consider conservation as a means to that end. Michaelidou *et al.* (2002) state:

“It is rare that ecosystem conservation and community viability are viewed as interrelated and equally important objectives. These differing values and expectations are reflected during both the design and evaluation phases of projects, when people emphasize either anthropocentric or biocentric dimensions [*Ibid*:601].”

The biocentric approach to sustainable development is commonly used by conservation NGOs and by international conservation networks, encouraging economic development where it is conducive to biodiversity (and natural resource) protection. This approach greatly differs from the one produced in the Bruntland Report that places priority on human welfare. The definition produced in the report focuses on intergenerational equity, but does not include any environmental factors, and has been criticized as anthropocentric (Callicott and Mumford 1997).

In addition to the differing biocentric and anthropocentric views of sustainable development, two main points concerning the concept exhibit its inherent connections to western/northern views of nature and progress, and to global capitalism. First, the concept is built largely on the modernist perception that nature and society can be

planned and controlled. The language used in the introduction to the Brundtland Report exhibits this point; “This new reality, from which there is no escape, must be recognized – *and managed*” (Brundtland 1987:1; emphasis added). This point is further demonstrated with the rapid establishment of global networks of conservation and natural protected areas that occurred in the twenty years following that publication.

A second point is that sustainable development is an inherently market-friendly term. Breunig (2006) argues that sustainable development embraces the neoliberal notion that the market is the most efficient manager of environmental resources. Escobar (1996:53) relates the concept of sustainable development directly to the global capitalist system in stating that “by rationalizing the defense of nature in economic terms, those who advocate sustainable development contribute to extending the economization of life and history.” The establishment of natural protected areas and sustainable development projects intended to preserve those areas are actions that ensure that nature is and will be available to the market in the future. Consequently, sustainable development efforts in developing nations are perceived to be essential, but to be implemented in a practical sense require a delicate balance between satisfying social and economic needs of rural communities while ensuring ecological persistence (Robinson 1993).

2.4 Biosphere Reserves

In the last thirty years, protected area policies have been adapted in attempts to conserve natural areas and meet the needs of local communities at the same time (Wells and McShane 2004:513). The concept of linking conservation and development emerged

in large part with the growing concern for biodiversity conservation and social welfare in tropical and forested areas. Some protected area policies were adapted in the form of integrated conservation and development programs (ICDPs). The main argument behind the position that linking conservation and development is effective is that the provision of benefits derived from the conservation of natural areas increases local support for conservation and as a result, both local communities and the environment benefit (Wells and McShane 2004). However, this is based on the assumption by environmentalists and activists that conservation projects will provide sufficient benefits to increase local support. Similarly, this method assumes that additional wealth will encourage further conservation of resources. UNESCO's Man and Biosphere Programme (MAB) was one of the first large-scale ICDPs, and is today one of the most significant global biodiversity protection programs.

2.4.1 UNESCO's Man and Biosphere Programme (MAB)

The MAB Programme was created in 1970, following the "Biosphere Conference" organized by UNESCO in 1968. Since that time, there have been 531 Biosphere Reserves in 105 countries created and recognized by the MAB (UNESCO 2007). Biosphere reserves have been established as a way to integrate sustainable development and biodiversity conservation into the protected area concept.

The original MAB projects consisted in establishing a World Network of sites representing the main ecosystems of the planet in which genetic resources would be protected, and where research on ecosystems as well as monitoring and training work

could be carried out (UNESCO 2007). More importantly, biosphere reserves are established to promote and demonstrate a balanced relationship between humans and the biosphere. Like previous international conservation and development schemes, in order for biosphere reserves to be included in the MAB network, they must include specific objectives. Each site must incorporate three inter-connected functions; (1) the conservation of landscapes, ecosystems, species and genetic variation, (2) economic and human development that is culturally adapted, and (3) logistic support in the form of research, monitoring, environmental education and training (UNESCO 2007). In addition to the three functions, biosphere reserves are physically divided into core, buffer, and transition zones (Table 2.2). What makes biosphere reserves different from other protected area models is that they do not totally exclude human use. Instead, each zone permits a certain level of ‘appropriate’ human activities (UNESCO 2007).

Table 2.2 Zoning in Biosphere Reserves

UNESCO’s Categories for Zoning in Biosphere Reserves	
Zone	Specifications
Core	securely protected sites for conserving biological diversity, monitoring minimally disturbed ecosystems, and undertaking non-destructive research and other low-impact uses (such as education)
Buffer	Zone or zones that surround or adjoins the core areas; and is used for cooperative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism, and applied and basic research
Transition	a flexible zone, or area of cooperation, which may contain agricultural activities, settlements and other uses in which local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests, and other stakeholders work together to manage and sustainably develop the area’s resources
*Source: Statutory Frameworks for Biosphere Reserves, UNESCO 1995	

According to the MAB's Seville Strategy of 1995, biosphere reserves are under national sovereign jurisdiction, yet share their experiences and ideas nationally, regionally and internationally within the World Network of Biosphere Reserve (UNESCO 1995). As stated in the Statutory Framework of the World Network of Biosphere Reserves;

“UNESCO does not require any change in law or ownership: each biosphere reserve has its own system of governance to ensure it meets its functions and objectives. The management system of a biosphere reserve needs to be open, evolving and adaptive in order for the local community to better respond to external political, economic and social pressures, which would affect the ecological and cultural values of the area. Hence it is necessary to set up an appropriate governance mechanism, for instance a committee or board, to plan and coordinate all the activities of all the actors concerned, each within their own mandate and competence. Usually a biosphere reserve coordinator is named as the contact person for all matters dealing with the biosphere reserve [UNESCO 1995].”

Supposedly, one of the biggest strengths of biosphere reserves is their flexibility and creativity with which they have been realized in various regions. The idea that biosphere reserves are flexible comes from the organization's “open” policy of local and regional governance. Several different governmental and non-governmental agencies administer and manage the land and resources within biosphere reserve boundaries (Price 1996). However, the program is built on the assumption that local and national policies will contribute positively, and that there will be considerable benefits from protected areas that are readily produced and will provide incentives for conservation. The many factors and interest groups that play a part in biosphere reserve management often have contradictory goals that do not equally give priority to environmental conservation or to

socio-economic development. Group and individual interests are sometimes contradictory, since each represent different forms of knowledge and have distinct needs from the local environment. The disparity between the concept and application of biosphere reserve's goals has created many skeptics of the design (Murphy 2003).

Sayer (1991) produced a report that showed how buffer zone projects in ten biosphere reserves around the world did not adequately conserve biodiversity or increase local support for conservation. This was mainly due to the fact that the programs had been top-down efforts, and 'frequently pursued objectives which were inconsistent with the aspirations of the people they were trying to help (Sayer 1991:24):

“Legal protection is rarely sufficient to guarantee the continuing integrity of conservation areas. Local people, often with good reason, frequently see government-imposed restrictions on their legitimate rights. Patrolling by guards, demarcation of boundaries and provision of tourist facilities will therefore not deter them from agricultural encroachment. Illegal hunting and gathering of forest products will be difficult to control. Laws which are resented by the majority of the population are difficult to enforce. In these situations, protected areas lose support and credibility, and their condition rapidly deteriorates [Sayer 1991:1].”

Biosphere reserves no longer have the explicit goal of protecting a 'nature' that is separate from human activity, but rather they are “charged with improving social welfare, guarding local security, and providing economic benefits across multiple scales, objectives traditionally relegated to the development sector (Naughton-Treves et al. 2005:239).” For that reason, biosphere reserves have attracted a great deal of support from transnational funding agencies, both for supporting socio-economic development and for biodiversity protection. As a result, many conservation-oriented international

NGOs (INGOs) have begun to change their historically biocentric goals to incorporate human well-being into them.

2.4.2 NGO Involvement in Biosphere Reserves

Most transnational environmental organizations are based in the United States or other industrialized nations (Breunig 2006). The Nature Conservancy, the World Wildlife Fund for Nature, and Conservation International are three of the largest conservation-oriented INGOs in the world. These three organizations have offices and partners across the globe, and virtually all natural protected areas in the world have some connection to at least one of the three.

Until the last three decades, certain conservation organizations based their practices on the firm belief that local people do not have the knowledge or means to regulate protected areas, and therefore outside “experts” are needed. One reason this is problematic is that conservation-oriented non-governmental organizations (NGOs) continue to rely heavily on the Western division between nature and culture (Nygren 1998). NGO publications frequently present nature as a static object, separate from human beings. This belief is also apparent in that conservation NGOs frequently support the protection of global biodiversity through the creation of national parks and biosphere reserves, two concepts that both separate nature from human activity and that assign “appropriate” uses of the nature contained in NPAs.

Only in very recent years have conservation INGOs begun to take on ‘sustainable development’ efforts. For example, until the last few years, organizations like The

Nature Conservancy (TNC) sponsored programs that explicitly kept people out of NPAs. However, very recently, TNC has begun to change its firm belief in the separation of humans from other species. As Stephanie Meeks, the current acting president and CEO of TNC stated in early 2008, “We have learned that our mission of protecting biodiversity is more intrinsically linked to human well-being than our founders could ever have imagined (The Nature Conservancy 2008).” Consequently, NGOs have become principal actors in the promotion and regulation of sustainable development and conservation-supporting activities in and near biosphere reserves.

2.4.3 Biosphere Reserves as Spaces for Eco-tourism

One of the most popular ‘alternatives’ promoted by NGOs and governments in and around NPAs is eco-tourism. Global interest in eco-tourism has grown in the last twenty years. This growth can be largely attributed to the rise of popular interest in biodiversity conservation and sustainable development since the 1980s. In general, travel and tourism have become defining characteristics of modern societies. Uddhammer (2006) stated;

“Tourism is one of the economically most important industries in the world. It is calculated by the World Tourist Organization that 10.4% of the world’s total GDP in 2004 was derived from the tourist industry and that it employs about 200 million people worldwide, which is almost 8% of the total world employment [*Ibid*:658].”

Much like the concept of sustainable development, eco-tourism does not have one clear definition and may have different meaning for different people (Norris *et al.* 1995). The

concept of using eco-tourism in the buffer zones of biosphere reserves revolves around the idea that “tourism in and around NPAs is supposed to generate money and work for the local population, which eventually will make them aware of the economic value of wildlife and conservation (Eagles *et al.* 2002).” Many conservation organizations view eco-tourism as an ideal alternative to land practices that are deemed as inappropriate or destructive for the landscapes protected in biosphere reserves and other NPAs. Wallace and Diamante (2003) pointed out some of the challenges in rural Guatemala when conservation NGOs viewed eco-tourism as a ‘solution’ to combine the goals the biodiversity conservation and economic development;

“Seeing ecotourism as ideal, its goals are for more tourists, more local participation, better environmental education and awareness, and thus increased benefits for the people and the land. Unfortunately, the equation is not that simple. The lack of proper training in tourism management, the lack of institutional support for tourism entrepreneurs, and the inability to effectively provide widespread security for eco-tourists in rural areas cannot be overlooked or solved very easily [*Ibid*:198].”

Encouraging eco-tourism as a quick-fix for people living in and around NPAs is not as simple a task as many large-scale conservation NGOs would like it to be. In many tropical areas where eco-tourism is promoted by NGOs, the majority of people are used to meeting their livelihood needs through agricultural and forestry-related activities. Therefore to implement eco-tourist activities effectively, a great deal of infrastructure support, as well as cooperation between NGOs and local people is essential.

2.5 Summary

This chapter has attempted to briefly trace the history of conservation through the use of NPAs, from its roots in enlightenment thinking to its present-day implementation and regulation in biosphere reserves. What is apparent throughout this history is that Western capitalist values have been the major impetus for the creation of NPAs around the world, and that local valuation systems of nature and natural resources have yet to significantly affect the way conservation is carried out on a global scale.

CHAPTER THREE: A HISTORY OF FOREIGN INTERESTS AND NATIONAL POLICIES IN CALAKMUL

3.1 Introduction

Over the last century, export production and national agrarian reforms encouraged migration to southern Campeche, Mexico. International markets were the main influence on region's economic activities. However, in the last twenty years, international concerns in Campeche have shifted from the production of forest exports to the protection of species and global biodiversity.

Biodiversity conservation and sustainable development in Mexico's southern forests has grown steadily since the 1980s. Industrial programs, such as *maquiladoras*, that are prevalent in the north, are almost non-existent in the south. People have tended to be treated as of secondary importance in the region, especially since biodiversity loss came to be considered a global problem. Sustainable development initiatives have come about as a response to the protection of certain global biodiversity centers. As Lybecker and Mumme (2002) explain:

“Work in the southern states centers on protection programs for wet tropical forests (five of the country's nine biodiversity protection programs are located in the southern border states), eco-friendly agricultural practices on *ejidos*, and ecotourism [*Ibid*:412].”

In the last two decades, Mexican national policies have demonstrated a marked initiative in improving environmental protection and social participation through the establishment and management of NPAs (Watson 2006). The promotion of sustainable development in

the southern states takes place primarily within NPAs. However, the programs sponsored by large organizations such as the Nature Conservancy, the World Wildlife Fund, and Conservation International tend to be active only national parks or in biosphere reserves recognized internationally by the IUCN's World Commission on Protected Areas (WCPA) protected areas or UNESCO's Man and Biosphere Programme (MAB). In addition, their investments in the region only support those projects that serve their own interests that are primarily concerned with the protection of species and landscapes (Haenn 2000).

The global conservation agenda has redefined political, economic, and social boundaries that are reinforced through international networks and national policies. The establishment of the Calakmul Biosphere Reserve in Campeche, Mexico, drastically changed the way the region was viewed in an international context. In recent years, the region has received much national and international attention from conservation and development non-governmental organizations (NGOs) as well as researchers in both the biological and social science fields. While global interests in Calakmul have shifted, the values represented in the reconstruction of space and management of resources in southern Campeche continue to be those of economically powerful nations.

This chapter will examine the history of governmental and foreign interests the region of Calakmul, Campeche, Mexico. International markets influenced migration to southern Campeche, and biodiversity conservation created physical boundaries and land use restrictions that caused social inequalities and conflicts in Calakmul. This history is

critical to understand the complexities of the social, political, and ecological issues that currently affect the people and landscapes of the CBR.

3.2 Calakmul, Campeche, Mexico

3.2.1 The Calakmul Biosphere Reserve – Geography and Biodiversity

As stated in Chapter One, the Calakmul Biosphere Reserve (CBR) is located in the southeastern corner of the Mexican state of Campeche. It is the largest biosphere reserve in Mexico. It was founded by the Mexican government in 1989 for the protection of the biological and cultural wealth of southeastern Campeche. The reserve was then recognized by UNESCO's Man and Biosphere Programme in 1993, and Calakmul's main archeological site was declared a World Heritage Site in 2002 (CONANP 2008).

The CBR covers over 723, 185 hectares, which is almost 15% of the state of Campeche, (INE 2000). It forms the northern part of the most important tropical forest in the Northern Hemisphere of the Americas, the Maya Forest. This forest spans three countries: Guatemala, Belize and the Southeast of México. Due to the region's relative inaccessibility and shortage of water, Calakmul is home to one of the best preserved forest areas in the Yucatan peninsula (Galindo-Leal 1999).

The forests of Calakmul are also home to thousands of species of animals and plants, some of which are endemic to the region. Some of the varied animal species found in the CBR include: over 350 species of migratory and resident birds, 95 mammal species, which include 5 of the 6 large cats registered in Mesoamerica, 45 amphibian species and 73 different species of reptiles. Plant diversity includes over 1,600 plants

(INE 2000), including tropical evergreen and deciduous forests (Galindo-Leal 1999). Within that diversity, the most prominent commercial species are mahogany (*Swietenia macrophylla*) and Spanish cedar (*Cedrela odorata*) (Merino Pérez 2004). The most abundant tall trees are ceibas, chicozapote (*Manilkara zapota*) and ramón (*Brosimum alicastrum*). There are diverse flower species, including 73 catalogued species of orchids and 8 types of bromeliads (INE 2000).

3.2.2 Human populations and Early Migration Patterns

In addition to numerous other animal and plant species, the CBR presently includes 114 human communities and nearly 24,000 people living in or near it (INEGI 2005). The northern corner of the reserve has been populated by Mayan speakers for over 2,000 years (Haenn 2000:8). Archeologists suggest that the site of Calakmul was once one of the largest and most powerful urban centers in the region (Erickson et al. 1999:11). Several other urban Mayan societies lived in the region, whose remains are now the archeological sites of Becán, Chicanná, Hormiguero, Rio Bec, and Xpujil. The area's forests also shelter numerous smaller ruins of the Preclassic and Classic Mayan civilizations.

3.2.3 Caste Wars

Since pre-Hispanic times, the region's history is marked with several periods of in-migration. The first documented migration to the region occurred during Yucatan's caste wars, fought mostly between 1847 and 1855 (Reed 2001). Following the war,

which ended in a stalemate, Mexican elites stayed in the northwest part of the peninsula, and several Yucatec Mayas moved south to avoid forced labor on henequen plantations (Dumond 1997). In the last century, Calakmul has seen three more major periods of immigration. They are all directly related to national and international market interests.

Timber, chewing gum resin, and farming were the dominant productive industries throughout the last century in Calakmul. Production was supported by the Mexican government and the histories of these industries demonstrate their connections to and dependence on foreign investment.

3.2.4 Chicle Harvests

At the start of the 20th century, chewing gum became an international fad. In the United States, chewing gum became popular in the 1910s. Gum was included in the rations of WWI soldiers, as it was believed to relieve tension (Ponce Jiménez 1990). At this time, Mexico became the world's largest producer of chewing gum resin, or *chicle*. Most *chicle* comes from the sap of the zapote tree (*manikura zapote*), a species native to the states of Campeche, Chiapas, Tabasco, and Veracruz. During the chewing gum boom, Campeche was the largest producer out of these states. Ponce Jiménez (1990) noted that prior to the creation of a synthetic substitute for *chicle* in 1947, Campeche was practically a colony for U.S. gum manufacturers;

“El 95% de la producción chiclera de nuestro país se exportaba a los Estados Unidos y sólo el restante 5% se quedaba en México para abastecer la incipiente industria ‘nacional [Ibid:8].’...Todas las compañías compradoras de chicle era norteamericanas...las más importantes en los Estados Unidos fueron: American Chicle Co. and William Wrigley Jr [Ibid:16]. [95 percent of Mexico’s harvest

was exported to the United States and only the remaining 5 percent stayed in Mexico for the national industry. All of the companies that bought *chicle* were North American. The most important buyers were the U.S. companies American Gum Co. and William Wrigley Jr. [Ponce Jiménez 1990, translation by author].”

Resulting from the high demand for chewing gum, migrants moved into the area that is now the CBR to harvest *chicle*. Most of these migrants were experienced *chicle* tappers, or *chicleros*, from the neighboring states of Veracruz and Tabasco (Haenn 2005). Former unpaid laborers from northern Yucatan’s haciendas also migrated to the region to work in camps and cooperatives. However, many times these camps were run by ex-hacienda owners, and were sponsored mainly by U.S. companies. *Chicleros* were sent under harsh and sometimes violent conditions to harvest *chicle* in the forest, and did not return until their specified quota was met (Haenn 2005; Ponce Jimenez 1999). Labor conditions were unregulated, and *chicle* market was controlled by U.S. companies. Though large-scale *chicle* production drastically declined after 1947, *chicle* is still harvested and exported in small quantities, mainly to specialty markets in Japan and Europe.

3.2.5 Timber Production

In the 1940s-1980s, market for *chicle* was essentially replaced by the logging of precious timbers, especially Spanish cedar (*Cedrella odorata*) and mahogany (*Swietenia macrophylla*) (Merino Pérez 2004). The Calakmul region began to undergo heavy timber extraction mainly by the Mexican company Coabas Mexicanas (Haenn 2005:51-52). Though the company portrayed itself as holding autonomous power in the region, its way of business mimicked paternalistic U.S. corporate practices, and its financial success was

always dependent on U.S. markets. To establish its dominion in the area, the company set up the town of Zoh Laguna, where loggers and their families could settle. In the town, Coabas sponsored a pharmacy and a Catholic Church (Haenn 2005:52). While there is not much written on the company that dominated Calakmul's forests, the town of Zoh Laguna continues to be a main population center in the region. It is the site of the CBR's main office, as well as the base for many NGOs' conservation programs.

3.2.6 Agrarian Reforms and the Last Agricultural Frontier

From the 1970s to the present, prior logging villages made home sites for migrant farmers to Calakmul. The farmers' migration in Calakmul followed governmental support of "Ejidal colonization" to the southern states in order to reduce land pressure in central Mexico (Murphy 2003:127). Landless farmers were encouraged to relocate to "under-utilized" regions in the country's southern tropical frontier, mainly in the states of Chiapas, Quintana Roo, Yucatán, and Campeche (Haenn 2000; Murphy 2003:127). The colonization of lands in the region of Calakmul was increased dramatically following the paving of the Chetmul-Escarcega road in 1972 (Klepeis and Chowdhury 2004). The majority of people presently living in Calakmul migrated to the area from Tabasco, Chiapas, Veracruz, and Michoacán. By sending farmers to these forested lands, more room was made for industrialized agriculture in the Northern part of the country (Murphy 2003). This southern migration, sponsored by the Mexican government, caused some of ecological problems that the CBR was later created to counteract. As Erickson et al. 1999 noted;

“Although most of the farmers in the region’s economically marginalized communities practice subsistence and small-scale agriculture, migrants from central and northern Mexico have a tendency to employ mechanized agriculture and agrochemicals for cash crop cultivation. These farming technologies contribute to reduction in the forest cover as well as declines in soil fertility and structure of this tropical ecosystem. In contrast, colonists already familiar with the tropical forest of the Yucatán Peninsula, such as the indigenous Maya, use the swidden system of agriculture that allows the forest to regenerate [Erickson et al. 1999:21].”

Murphy (2003) noted that not only did the ejidal colonization to Calakmul rapidly augment the region’s population, but the creation of increasingly small ejidos also increased deforestation rates (*Ibid*:134) (Table 3.1.). With less land to cultivate, migrants, who were unfamiliar with forest soils, intensified their practices, only to further deplete the land in their ejidos.

3.2.7 Other migrants

Shortly after the government-sponsored migration of thousands of farmers to Calakmul, more land grants were issued in the region for over 4,000 Chol Maya from Chiapas who were left landless following the eruption of the volcano Chiconal in 1982 (Klepeis and Chowhury 2004:148; Stedman-Edwards 1997). Even after the reserve was declared in 1989, migrants continued to the area. Political refugees from Guatemala moved through Chiapas to Calakmul, along with Chol and Tzotzil Maya who fled from political violence in the states of Chiapas and Tabasco in the early 1990s (Gutiérrez Sanchez 2000) (Table 3.1).

Table 3.1 Number of Ejidos Established in Calakmul from 1920-2000
(Data available for 62 of 114 Ejidos)

Ejidos Established in Calakmul from 1920-2000		
Decade	# of Ejidos established	Average size of ejido (in hectares)
1920-1929	3	3,030
1930-1939	0	-
1940-1949	0	-
1950-1959	0	-
1960-1969	4	14,125
1970-1979	9	12,280
1980-1989	36	4,000
1990-2000	10	2,919
*Source: <i>Adapted from</i> Murphy (2003:132), and personal field notes		

3.3 Calakmul: From Vast Frontier to Natural Protected Area

Migrants continued to flow into the region of southern Campeche when the CBR was established. The establishment of the CBR in 1989 immediately forced together conflicting social constructions of nature and space. The creation of the CBR was part of a national political scheme that appeased international environmental interests. The poorly-planned borders of the reserve cut across the territory of pre-existing *ejido* communities and privately held properties. With the reserve's establishment, all intensive activities that were previously encouraged by the government suddenly became restricted or completely prohibited. Calakmul rapidly converted from a vast frontier for agriculture, *chicle* harvesting, and timber extraction to an international reserve for biodiversity protection. Calakmul was one of many NPAs that were created as part of a

national political scheme to attract regional votes and increase foreign investment. The environmental politics in Calakmul have been influenced by many international interests, which were sometimes enforced at the expense of rural residents.

3.4 Recent History of Environmental Politics in Mexico and Calakmul

In the 1980s, as the environmental movement was growing in popularity around the world, the political situation in Mexico was influenced by neoliberal market policies. During this time period, certain environmental decisions in were influenced by the country's political context and the international conservation network entered into Mexican environmental practices.

In Mexico prior to 1980, several years of rapid industrialization had led to intense environmental concerns associated with pollution in urban areas, as well as deforestation and soil erosion due to the intensification of agriculture. As a result, a new environmental movement emerged. Since social movements tended to be aligned with the left, the new environmentalism was first perceived to be a threat to the PRI (*Partido Revolucionario Institucional*) stronghold (Mumme 1998). Historically, government environmental regulation in Mexico has been more symbolic than regulatory, and often has been used in political attempts to gain regional votes. In fact, the country's first inclusive environmental law was launched in an act to increase support for the PRI in the 1988 presidential elections (Bray 1996), President Miguel de la Madrid passed the General Law of Ecological Equilibrium and Environmental Protection (*Ley General del Equilibrio Ecológico y la Protección al Ambiente - LEEGEP*A). This law:

“required the government to address environmental matters in its national plans, delegated more authority to state and municipal officials to deal with environmental problems, required environmental assessments of public projects, created an extensive plan for the establishment and protection of natural protected areas, and promoted the inclusion of environmental concerns in development programs [Merino Pérez 2004:193].”

The law was the first in a series of major changes to Mexican environmental legislation. Aimed mainly to please international economic interests, and residents of Mexico City concerned with air and water pollution (Mumme 1998), the law was not enforced evenly for all environmental issues. Yet, during the presidency of Carlos Salinas de Gortari (1988-1994), many more steps were taken in Mexico’s government to enforce environmental laws.

3.4.1 The North American Free Trade Agreement and Environmental Policy (NAFTA)

Some scholars (Breunig 2006; Husted and Logsdon 1997:39) believed that the measures taken to tighten environmental laws in the late 1980s and early 1990s would not have taken place in the absence of the North American Free Trade Agreement (NAFTA). In the period from 1990-1993, when NAFTA was being debated, Mexico showed a marked initiative to tighten its environmental laws. Several transnational organizations supported the passage of NAFTA only once certain environmental conditions were included. World Bank interest in Mexico’s environmental policy enforcement grew in the 1980s and 1990s. After NAFTA came into effect, despite budget cuts in many areas of government, environmental policymaking and enforcement was maintained. The laws that were put in place to appease the supporters of NAFTA were mainly concerned with

pollution along the U.S.-Mexico border and from urban manufacturing (Husted and Lodgdon 1997). However, the government departments that were created during this time period also influenced the establishment and management of more than one hundred NPAs across Mexico.

3.4.2 NPAs in Mexico

Early in Salinas' *sexenio*, international organizations were invited into Mexico to partner with the government in the conservation and protection of Mexico's ecosystems and biodiversity. Together with the Nature Conservancy, Conservation International, and World Wildlife Fund (Breunig 2006:107), Salinas developed a program of protected areas throughout the country. This number of NPAs in Mexico has grown significantly over the last 20 years. There are currently 164 NPAs in Mexico (CONANP 2008), and biosphere reserves constitute half of the land surface in Mexico that is under federal protection (see Table 3.2).

Table 3.2 Natural Protected Areas in Mexico

Number	Category	Land Surface in hectares
38	Biosphere Reserves	11,846,462
68	National Parks	1,505,643
4	Natural Monuments	14,093
7	Managed Resource Protected Areas	3,417,990
29	Habitat/Species Management Areas	6,259,861
17	Protected Landscape/Seascape	689
1	Other Categories	186,734
164	TOTAL	23,048,994
*Source: adapted from CONANP website: http://www.conanp.gob.mx/q_anp.html		

3.5 Communities and Communally-held Lands in Biosphere Reserves

The biosphere reserve model has been widely accepted in Mexican policy, since many of the country's biological resources are located in forested areas with large human populations (Breunig 2006). At present, in Mexico and other parts of the world, communities are the locus of conservationist thinking (Agrawal 1999:631). Community-based conservation programs in and near biosphere reserves bring environmental activism and politics into local spaces. The concepts of *community* used by outside actors in relation to conservation and the creation of NPAs are usually based on their own cultural biases and assumptions. Most literature on rural Mexico includes the universal terms 'community' and '*campesino*,' neither of which adequately explains the complex local political situations within the country (Haenn 1999). In many cases, these can be attributed to the inaccurate conceptions of local communities as homogenous groups, and of communally-held land as an impediment to proper natural resource management. As Brockington (2002) pointed out, "The social is made to seem less complex so it can fit into the new spatial productions of conservation. This is done for ease of policy making and management (*Ibid*:25)."

3.5.1 Assumptions of community

A typical assumption of conservationists working near NPAs with human populations is that the communities occupy a relatively small space, and have a limited number of members with locally evolved norms and rules to manage resources sustainably and equitably (Agrawal 1999:630). When identifying stakeholders, rural

populations are generally considered as a whole. Much of the current literature on community-based conservation does not analyze how the differences of actors within communities affect natural resource management. Homogenous representations of community ignore the critical interests and power relations that individuals within communities face. Furthermore, differences in communal power structures have a significant impact on the way that natural resources are managed by communities.

3.6 Biosphere Reserves and the establishment of the CBR

For example, the biosphere reserve model was chosen for Calakmul, because at the time of the reserve's establishment, there were over 15,000 people in the area, divided into 72 ejidos and some privately-owned properties (Boege 1995:13). There is a degree of irony in the official decision to make Calakmul a biosphere reserve because of the large number of people living in the area. This is because its borders were obviously planned without consideration of local populations, since part of the reserve's core zone cut across the territory of pre-existing ejido communities and privately held properties. In fact, in 1989, Ejidal lands made up 50 percent of the reserve (INE 2000:41) (Figure 3.1).

Biologist Carlos Galindo-Leal (1998) described the poorly planned borders of the reserve as Calakmul's *mal congénito*, or 'bad gene.' In the same article, he referred to the unconcerned attitude of outside organizations and the Mexican government toward the potential of such controversial boundaries to create more social and ecological conflicts in the future:

“Desafortunadamente Calakmul nació con un ‘mal congénito’. Aunque como padres amorosos y parientes diplomáticos no nos queremos dar cuenta, sus ‘malformaciones anatómicas’, difíciles de ocultar, pueden agravarse con el tiempo y llegar a ser letales. [Unfortunately, Calakmul was born with a ‘bad gene.’ Although as loving parents and diplomatic relatives we don’t want to pay attention, its anatomic malformations, that are difficult to hide, might worsen over time or potentially become life-threatening] [Galindo-Leal 1998:10, translation by author].”

Rather than redraw the reserve’s ill-planned boundaries, which to many seemed a more logical solution (Galindo-Leal 1998), the government relocated some ejidos from the core zone to the reserve’s buffer zone. The three ejidos known as *Las Delicias*, *22 de Abril*, and *Unión 20 de Junio* were located entirely within the reserve’s core zone, and were moved to a new site (Murphy 2003, Klepeis and Chowdhury 2004). At present, 44 ejidos are located partially or wholly within the reserve’s buffer zone, and 21 have holdings within the core zone, where no human activity is to take place (Klepeis and Chowdhury 2004:52). Many have been left without a resolution for proper land use rights (Boege 1995; Murphy 2003; Haenn 2005). The majority of people living in the CBR have responded to the terms of new policies and programs centered on biodiversity conservation by diversifying their livelihood strategies. PROCAMPO (*Programa de Apoyo Directo al Campo*) subsidies, conservation/development program earnings, wage labor, and cash crop sales became important to support the livelihoods of the *campesinos* (Erickson 2004; Haenn 2005).



Figure 3.1 Calakmul Biosphere Reserve and ejido boundaries
 Source: *adapted from* Turner II et al. 2004:53

Since a majority of Mexico's forests, including much of the CBR, are *ejido* (communal) lands (Merino Pérez 2004), most regulation that affects local and global involvement in the conservation of Mexico's southern forests, also are directly related to ejido land tenure. Global perceptions of conservation, communities, and economic potential in communally-owned lands are also highly influential in Mexican policies and decisions. They are apparent in the modifications to laws governing ejidos in forested biosphere reserves. Two relatively recent governmental decisions are directly related to ejido land tenure in Mexico's forest lands. The decisions have commonly deterred local

support, created social conflicts, and discouraged forest conservation. They also demonstrate Mexico's simultaneous commitment to conservation and neoliberal economic policies. Interestingly, they were established within a few years of the creation of several internationally-sponsored biosphere reserves. As can be seen in contradictory land tenure regimes in Calakmul, the traditional ejido system in forested areas are caught between conflicting policies that promote both local rights to privatize and to maintain their communal lands.

3.6.1 Ejidos and Governmental Reforms

The Mexican Constitution was written in 1917, and it included detailed plans through which much of the nation's land would be reallocated to landless peasants. The ejido was created as a form of land ownership that provided rights to individuals to farm small plots of land as well as rights to communities to jointly use wild lands and forested areas. Any group of at least 20 people could petition the government for ejido land rights (Wilson and Thompson 1993). Although substantial redistribution of land did not start immediately, eventually two-thirds of rural production in Mexico (Toledo 1996) and half of Mexico's land (Randall 1996) were transferred to the ejido sector.

From 1917 until January 1992, Article 27 of the Mexican Constitution mandated that the state would control both the distribution of land to needy farmers and support to the agricultural sector (Haenn 1999). In 1992, president Salinas rewrote Article 27, and the revision allowed for private investment in communally owned property (ejidos), but still enforced restrictions on land use for *ejidatarios* (official rights). PROCEDE

(*Programa de Certificación de Derechos Ejidales*) was the initiative that offered ejidatarios the possibility of acquiring three different land titles: house plots (*solares*), farm plots (*parcelas*), and a percentage of the value of common goods and land (*uso común*) (Procuraduría Agraria 1993). The decision for the reform was backed by the argument that privatization of ejidos was a way to reverse the natural resource degradation that occurred throughout Mexico. This argument is clearly based on the assumption that environmental degradation is caused by a tragedy of the commons in that ejido lands have not provided incentives for resource protection. However, as Bray (1996) points out;

“Where ecological degradation has occurred with *ejido* lands, blame cannot be placed exclusively on *ejidatarios*...If the *ejido* sector is today characterized in many areas by ecological degradation; it has much to do with official neglect of the sector and the quality of the land originally given to *ejidatarios*. Historically, the state has been heavily involved in the management of *ejidos*, including farming practices. This top-down management led to unsound resource practices [Bray 1996:216].”

Nonetheless, the notion of a “tragedy of the commons” was used support of state and nongovernmental community-based conservation and development projects in *ejidos* located in the country’s southern forests (Lybecker and Mumme 2002). The programs were intended to provide economic incentives for rural poor to participate in the newly established natural protected areas. The state and nongovernmental sector in Mexico have greatly supported these projects in the country’s southern forests (Lybecker and Mumme 2002). A major stimulus for the continued management of biosphere reserves and national parks in the southern forests occurred in 1992, when Mexico began working

with the World Bank's Global Environment Facility (GEF). Since that time, Mexico has received about \$215 million from GEF for biodiversity protection through natural protected areas (Global Environment Facility 2002).

In Calakmul and other forested biosphere reserves, national and international policies concerning forests and conservation influenced how Article 27 was enforced. Since many ejido lands in Calakmul lie within the biosphere reserve's protected forests, PROCEDE permitted *ejidatarios* to privatize their house plots and had rights to community goods/lands, but titling or privatization of agricultural lands was prohibited (Haenn 2006). *Ejidatarios* in this situation hold certificates to farm parcels, but the parcels remained technically part of common lands. This system created confusion and contradiction between the supposed assertion of ejido autonomy and the fact that privatization had been largely forbidden in Calakmul (Haenn 2006).

3.6.2 Revision to the National Forestry Law

The second policy change that affected people living in the southern forests was the revision of the National Forestry Law in 1992. The law was revised just three years after the establishment of the Calakmul Biosphere Reserve. This law, employing the logic of privatization, aimed to "pave the way for the owners of woodland to earn a living from controlled forestry" by eliminating bureaucratic restrictions on the use of forest reserves (Mumme 1998). The law imposed further restrictions on ejido lands and created more unfair legal conflicts for the residents living in forested biosphere reserves who rely

on the forest for subsistence. Mumme (1998) explained the some of the implications of the law;

“Forestry studies and a management plan are required to receive permission from the federal government for felling authorized volumes of specified forest tree species in designated locations. Enforcement of this law has been inconsistent which causes some residents to express frustration and anger at the prohibition of unauthorized timber exploitation on *ejido* lands and the complete prohibition within the core zones of reserves. [*Ibid*:196].”

The amendment to Article 27 and the 1992 revision of the National Forestry Law had specific repercussions for people living in biosphere reserves. Whereas privatization was encouraged for house plots and communal rights within ejidos, titling of farm parcels in the buffer and transition zones of biosphere reserves is prohibited (Haenn 2006). The government has no legal power over private lands, and therefore forests needed to remain ejido lands, where the government could intervene.

The conflicts over land tenure and land-use restrictions that occurred during the first ten years of the reserve caused many people to view the government and outside organizations with disdain. The first ethnographies and studies written about the CBR noted that an anti-environmentalist sentiment arose as a result of the reserve’s initial management policies (Erickson 1999; Haenn 2000:21). In Calakmul, contradictory laws and land tenure regimes have changed the traditional ejido system in forested areas. People in Calakmul were caught between confusing policies that promote both local rights maintain and to privatize their communal lands. These ambiguous actions, representing the governments’ diverse political interests in the region, did little to provide incentives for *ejidatarios* living in southern Campeche to engage in sustainable activities.

The lack of incentives did, however, create a place for national and international conservation-based NGOs to enter the scene.

3.7 Calakmul: A Space for Sustainable Development?

Following the establishment of the CBR, the Mexican government encouraged NGOs to participate in the implementation of management strategies for the reserve (Boege 1995). The CBR was included in UNESCO's Man and Biosphere Programme in 1993. Since that time, several international, national, and regional conservation NGOs began to provide sustainable development and community-oriented conservation projects in the region. The reserve is federally funded by SEMARNAT (*Secretaria del Medio Ambiente y los Recursos Naturales*), and internationally by the GEF and the World Bank. Additional support for the reserve, as well as certain research activities within its boundaries comes from various sources; The Nature Conservancy, Pronatura Península de Yucatán, the World Wildlife Fund, the Ford Foundation, and the US Fish and Wildlife Service (Turner II et al. 2004:158). Though not particular to the CBR, other projects and organizations have had a great deal of influence on biodiversity conservation and on the people living in Calakmul. Some of those programs in the Maya Forest include: the Calakmul Model Forest, Mundo Maya, and the Mesoamerican Biological Corridor.

National and international conservation NGOs have implemented sustainable development programs in the region of Calakmul. Diverse programs have encouraged local landowners to employ sustainable farming and ranching practices, experiment with agroforestry, and more recently, to develop sustainable ecotourism activities. The next

section will describe the two most prominent NGOs in Calakmul, their mission statements, and their main interests in the CBR.

3.7.1 The Nature Conservancy (TNC)

TNC's mission is "to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive" (The Nature Conservancy 2008). The organization was founded in 1951 in the United States to protect different ecological niches of the country, and currently has offices and partner organizations in 30 countries around the world (The Nature Conservancy 2008).

In Mexico, TNC works closely with the Mexican NGO Pronatura in the creation and management of natural protected areas and biosphere reserves. TNC's primary goal in Mexico's southern forests is to preserve the biodiversity of the region.

"TNC aims to halt deforestation on private lands in and around Calakmul by working with local ejido landowners to implement sustainable farming and ranching practices, develop sustainable ecotourism activities, create a forest fire management plan for the reserve, establish conservation easements and/or acquire critically threatened private lands (The Nature Conservancy 2008)."

One of the most significant actions of TNC in recent years occurred in 2004, when TNC provided \$1.7 million dollars for a \$3 million land deal that transferred 370,000 acres of land from four communities located within the CBR to the Mexican government. Though the lands were already located within the CBR's boundaries, following the transaction, the land was incorporated into the reserve's core zone. This deal was the

largest conservation land transaction in Mexican history (The Nature Conservancy 2007). In addition to acquiring land for conservation, TNC has recently begun to evaluate the socio-economic costs and benefits of NPAs that it sponsors, including CBR, through rapid rural appraisal methods.

3.7.2 Pronatura Península de Yucatán (PPY)

Another prominent NGO working in the CBR is the Mexican NGO, Pronatura Peninsula de Yucatan, or PPY. The organization was created in 1988 as a branch office for the national NGO, Pronatura México A.C, which was founded in 1981 in Mexico City. The organization's mission is "the conservation of flora, fauna and priority ecosystems, promoting the society's development in harmony with nature (Pronatura México 2008)." The NGO's main objectives on the Yucatán Península are to conserve representative ecosystems in priority areas, to promote the sustainable use and management of natural resources, to foment valuation of environmental and economic benefits of natural resources in economical and developmental politics of our country (Pronatura Península de Yucatán 2008).

In the CBR, The NGO's strategy is to involve the people who live in the communities surrounding the reserves in environmental education and sustainable development activities. The strategy is based largely on the theory of incentive-based conservation; that if people living in and around natural areas receive economic and social benefits from these areas their convictions about preserving these areas will be strengthened (Pronatura Península de Yucatán 2008). Projects in the CBR include

sustainable farming, apiculture, and more recently, eco-tourism. About 5-6 years ago, PPY created their Eco-tourism and Biodiversity Program that has begun to focus the NGO's attention on eco-tourism activities in several of the peninsula's NPAs. WWF, TNC, and other international donors contribute to PPY's work by providing project assistance funds, training, and technical assistance (Erickson 1999:10).

3.7.3 Consejo Regional Agrosilvopecuario y de Servicios de Xpujil (Consejo Regional)

In addition to a large number of foreign and national NGOs in Calakmul, local ejido communities formed the *Consejo Regional Agrosilvopecuario y de Servicios de Xpujil* to negotiate the terms of projects carried out in the region (Klepeis and Chowdhury 2004:156). In the early years of the CBR, the *Consejo Regional* became the vehicle for almost all conservation and development projects in the region. In 1995, it had over 3,000 members from 58 ejidos surrounding the CBR (Klepeis and Chowdhury 2004:157). However, since that time, it has lost some political power due to organizational problems, tensions between geographically distinct ejidos, financial management, and the creation of the municipality of Calakmul in 1997 (Haenn 2000; Haenn 2005). Though it is not the political entity it once was, all funding for conservation or development projects that comes into the region from federal, state, and NGO sources is still supposed to be approved first by the *Consejo*.

3.8 Summary

This chapter has shown how a great deal of international interests and national policies influenced the creation of the CBR and continue to shape the management of lands and human actions in the reserve. The chapter illustrated the conflicts in local communities that occurred during the first years of the CBR due to confusing and contradictory government policies and land tenure regimes. The heterogeneity of local and external actors contributes to the continuously changing local situation, where the diverse interests of the area's disparate groups are either represented or overlooked in the use of lands and forests in the region of Calakmul.

CHAPTER FOUR: CONSERVATION AND TOURISM IN CALAKMUL

4.1 Introduction

As discussed in Chapter Three, the Calakmul Biosphere Reserve not only created a space for forest management and control of nature according to confusing land tenure regimes, but it also provided a space for the Mexican government and conservation NGOs to implement sustainable development programs. Several national and international conservation NGOs began to provide sustainable development and community-oriented conservation projects in the region.

This chapter will argue, based on qualitative field research, that in the region of Calakmul, external and global perceptions of the environment have changed how local people from certain ejido communities view and value the forest. Originally, I went to Calakmul with intentions of understanding how eco-tourism is carried out in the region as an alternative livelihood strategy for people living within the boundaries of the biosphere reserve. I wanted to see how conservation NGOs and the Mexican government supported and promoted eco-tourism for people who had been left without proper land-use rights after the reserve's establishment. However, what I found through observation and interviews, was not merely an issue concerning people's support or participation in eco-tourism, but rather was a question of how the concept and reality of conservation and its supporting activities have become an imposed necessity for the people of Calakmul.

This chapter will address three main points. The first point is that the sometimes uneasy relationships between conservation NGOs and local people have led to a

discursive disconnection around what the two groups consider to be forest value. Conservation NGOs often base policies on generalized assumptions of the communities in Calakmul, and therefore may fail to see the local manifestations of support for global conservation efforts. Secondly, whereas an anti-environmentalist sentiment arose as a result of initial management policies (Haenn 2000:21), my research aims to show that currently, many people whose lives are affected by the presence of the CBR believe that the reserve is necessary and a good thing to protect the *riqueza* (treasure) of the tropical forest. Finally, the same sort of disconnect between the two groups in the consideration of forest conservation similarly surrounds the concept of eco-tourism. NGOs view and use eco-tourism as *a tool for biodiversity conservation*, whereas local people used eco-tourism *as another means of survival*, when other seasonal activities did not provide enough income for their families' livelihoods.

4.2. Conservation and Forest Value in Calakmul

The first disconnection between local and NGO discourses surrounded the question of forest value. NGO employees expressed the belief that local people do not value the forest if they do not receive economic benefits from it. This idea is often backed up with an explanation of how the majority of people in Calakmul were recent migrants when the reserve was established, and are unfamiliar with the area's biodiversity. Almost all programs promoted by the NGOs are based on the theory of incentive-based conservation - that if people living in and around natural areas receive

economic and social benefits from these areas, their convictions about preserving these areas will be strengthened (Pronatura Península de Yucatán 2006).

However, the attitude I received from local ejidatarios is that people *do* want to conserve their lands, and the value they placed on the forest was not only monetary. Some of the ideas expressed by local landowners in regard to forest value are represented here in the following paragraphs. For example, one man told me that his ejido has done a lot of work to conserve the forest. They put aside land for forest conservation even in areas where they are not required to do so by the government. He stated; “*Tenemos que proteger esta riqueza que tenemos aquí. Si no lo hacemos, ¿quién lo va a hacer?* (We have to protect this treasure that we have. If we don’t do it, who will?) (personal communication 2007).” Another example came from a different community where one *ejidatario* told me that he had been offered money on more than one occasion for his house parcel;

“*Luego llegan y quieren comprar mi terreno, pero yo no la vendo. ¿Qué haría con tanto dinero? Yo me conozco. Lo gastaría en un año y después estaría jodido. Yo les digo no gracias. Con mi terreno, por lo menos tengo algo para dar a mi familia, para que siempre tengamos algo.* People come and want to buy my land, but I won’t sell it. What would I do with all that money? I know myself. I would spend it all in one year, and then I would be screwed. I tell them no thanks. With this land, I at least have something to pass on to my family, so we will always have something. [personal communication 2007].”

The two most common terms that local people used to refer to the forested lands in the CBR were *monte* and *montaña*. Mayan terms frequently used to describe the forest included *alkalché* and *selquelá*. However, when asked if and why the *monte* was important to them, no one responded by stating its market or monetary value. Most

people said that they valued the forest because it was their home, their place of work, and where they carried out their lives. As one woman stated, “*No es solamente el monte - al ver lo verde, es vida, es nuestra vida.* (It is not just a forest - to see all the green, its life, it’s our life) (*personal communication 2007*).”

4.2.1 External influences in Calakmul

Mexican policies and NGO actions in CBR are often influenced by foreign donors’ interests in the ‘global’ ideals of conservation and ‘sustainable’ economic development in communally-owned lands. Jim Igoe (2004) made a statement that highlights why full communal ownership of lands is threatening to both national and international conservation interests. Though he was referring to a the Tarangire National Park in Tanzania, his idea fits well with the situation in Calakmul;

“Giving people power over land and natural resources in their communities [communal rights] threatens the interests of foreign and private investors, as well as government officials who use their authority over land and natural resources to enrich themselves. Likewise, increased community control over land and natural resources threatens the interests of...Western conservation organizations. Giving people more control risks the possibility that they do not want Western conservationists around at all [Igoe 2004:130].”

Both national and international NGOs in Calakmul have thus taken on the role of “experts” who assist ejido communities in Calakmul to protect “what is left” of the forest in and around their lands. They are often supported by the government to suggest and sometimes dictate what activities are or are not appropriate on ejido lands adjacent to the CBR. In the CBR, biological and geographical land cover statistics are often used to

show the devastating impact that local deforestation has caused in the region. The impact of deforestation is described as a threat to both the region's biodiversity and the local communities' livelihoods. However, NGO publications most often do not stress how the political history in CBR not only contributed to its current ecological and social state, but essentially fabricated the region's environmental problems.

NGO directors later used the idea that these migrants had little knowledge of the environment to justify their presence and the implementation of conservation-supporting activities. However, this argument is slightly unreasonable, because most people I interviewed, and in fact the majority of migrants now living in the region, have been in Calakmul for at least 20 years. PPY has been active in the CBR for only 15 years (personal communication 2007). Therefore, the NGO workers' attitudes did not reflect many years of prior understanding of the environment, but displayed that they held a privileged form of knowledge about the environment and natural resources in Calakmul.

4.3 Conservation and Tourism in Calakmul

4.3.1 Eco-Tourism in Mexico's Yucatan Peninsula

In Mexico's southern tropical forests, eco-tourism is a steadily growing industry. Promoted primarily within NPAs, eco-tourism is considered by both the governmental and non-governmental sectors to be a promising sustainable development activity. In the last 10 years, governmental organizations (CONANP 2006) as well as national and international conservation and development NGOs began to include eco-tourism in their conservation agendas within NPAs.

The Yucatan Peninsula's archaeological and natural sites have become one of Mexico's main tourist attractions, bringing over six million tourists annually to the region (CONANP 2006). Rapid development of tourist infrastructure has resulted in far-reaching social, economic, and ecological impacts throughout the peninsula.

4.3.2 Eco-tourism in Calakmul

Calakmul is situated on Highway 186 (see Figure 4.1), a main East-West highway connecting the cities of Chetumal and Escárcega. The archeological site of Calakmul was not open to the public until 1994, so interest in the region is recent. Eco-tourism projects in Calakmul began about 10 years ago. The centralized location on the peninsula has made Calakmul a transition stop for eco-archeological travelers. The region is often visited by tourists who stay only a day or two while traveling between Maya archeological sites in Chiapas and the Caribbean coast. However, the tourism industry has grown rapidly since the archeological site of Calakmul was recognized by UNESCO as a World Heritage Site in 2002. From 2001 to 2005, the number of visitors to the reserve per year nearly doubled, increasing from 8,962 to 15,643 visitors in off-peak seasons (Kugel 2006).

Near Highway 186 in Calakmul, there are three main eco-tourist resorts and one major non-ecological hotels in the region, none of which are owned by local people. Several smaller hotels and cabins have been built in the last five years, but only a few of those offer eco-tourist activities. Some communities, ten of which were home to the respondents in my interviews, are located near the main highway, archaeological sites, or

wildlife-viewing areas. A few people from those communities have found alternative sources of income in the growing tourism industry.

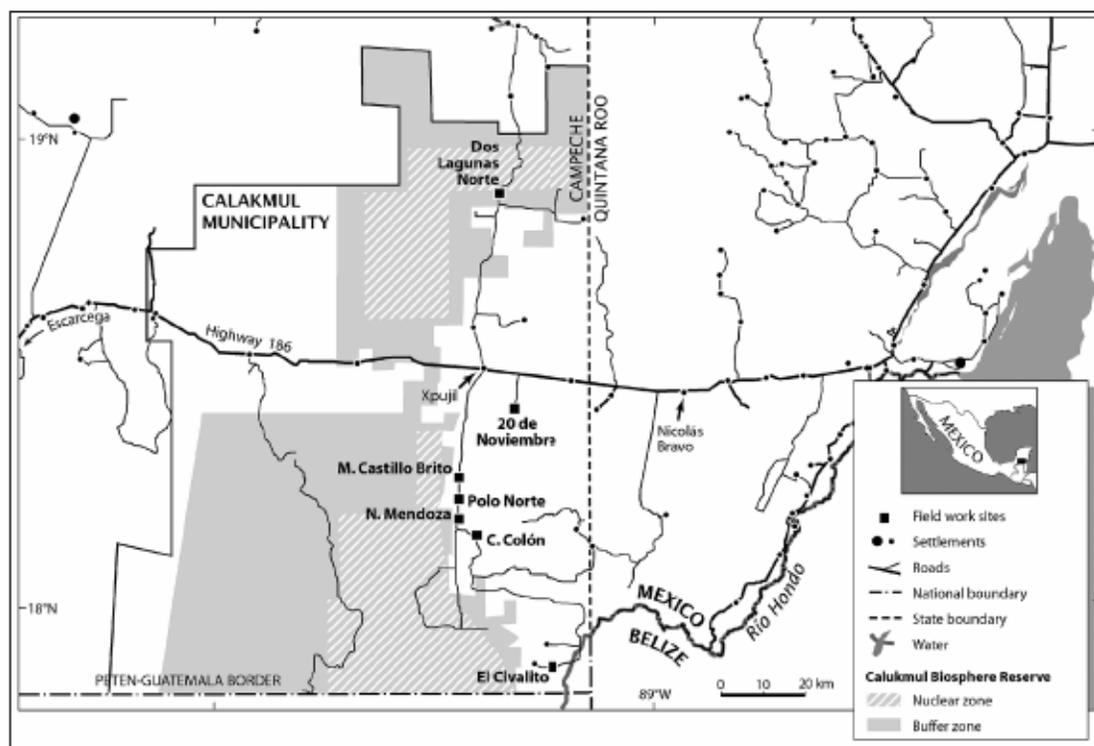


Figure 4.1 Map of Calakmul and the Yucatan Peninsula
Source: *adapted from Turner II et al. 2004*

NGOs have begun to view eco-tourism as a promising activity to promote biodiversity conservation and sustainable economic development in the CBR. Since 2002, TNC and PPY have shown a particular interest in eco-tourism that, “when is planned adequately and considering the region’s needs, favors the local communities, contributes to the better use of natural resources, and creates conservation awareness for both visitors and residents (Pronatura Península de Yucatán 2008).”

4.3.3 Anti-environmentalism?

Along with other alternative forms of economic development, such as agroforestry adoption or apiculture, NGO directors saw eco-tourism as a tool for biodiversity conservation. All five directors viewed eco-tourism as an important means to protect the region's unique ecosystem, yet they saw political problems between the *ejidos* and the municipal and state governments that have impeded local support. The belief was that many people do not want the government to interfere with the way they use their lands, and therefore many lands just outside the CBR are being degraded. It was understood by the NGO employees that in several cases, local people did not value conservation or conservation-supporting activities as a means to generate future income or to sustain their livelihoods. As one director stated in relation to eco-tourism;

“Calakmul tiene una potencial muy grande para el ecoturismo. Ahora, usan [las comunidades] la naturaleza para atraer turistas, pero al mismo tiempo, no se fijan tanto en el hecho que hay que conservarla para que puedan seguir. [Calakmul has a great potential for eco-tourism. Local communities now use nature to attract tourists, but at the same time, they don't pay as much attention to the fact that they must conserve nature in order to continue attracting tourists] [personal communication 2007].”

As mentioned in Chapter Three, not just in the CBR, but around the world, communities are currently the locus of conservationist thinking (Agrawal 1999:631). Yet, the concepts of community used by outside actors in relation to conservation and the management of NPAs are based on their own cultural biases and assumptions. Throughout Mexico, NGOs implementing conservation and development projects have often relied upon simplified and sometimes inaccurate conceptions of local communities

and communally-held lands. Following my fieldwork in the region, it was apparent to me that NGO employees based much of their understanding of local attitudes on the results of social and socio-economic research that was conducted eight or more years ago in one or two ejido communities. NGO workers continued to assume that local communities maintained the anti-environmentalist attitude that was present in the reserve's early years (Haenn 1999:21), and therefore, the belief was that many ejido communities are unwilling to cooperate with NGOs and/or the government in conservation programs.

The NGOs in which I conducted interviews (TNC and PPY), though they have regional directors for the area's programs, do not currently have any permanent employees stationed in Calakmul. Therefore, the firsthand information that was used to promote sustainable programs is based on limited accounts of local communities. The most recent NGO assessments of communities' attitudes toward conservation and tourism are based on occasional NGO visits to a limited number of ejidos. This is problematic, first of all, because there are now nearly 24,000 people living in 114 ejidos within the region that surrounds the CBR (INEGI 2005). Many of these ejidos are in regions that would not be conducive for tourism development because of their geographical locations. However, at least 20 ejidos are located near the major highways, archeological sites, and wildlife-viewing areas (Figure 4.1).

In my interviews with NGO program directors, I learned that while occasional assessments of the local communities' *potential* for eco-tourism have been carried out by groups in the last ten years (CENLATUR 2003; PPY 2005), there are no permanent eco-tourism projects underway in Calakmul. This was due, in part, to the continued belief

that local people do not want to participate in projects sponsored by the government or outside organizations. As one NGO director told me:

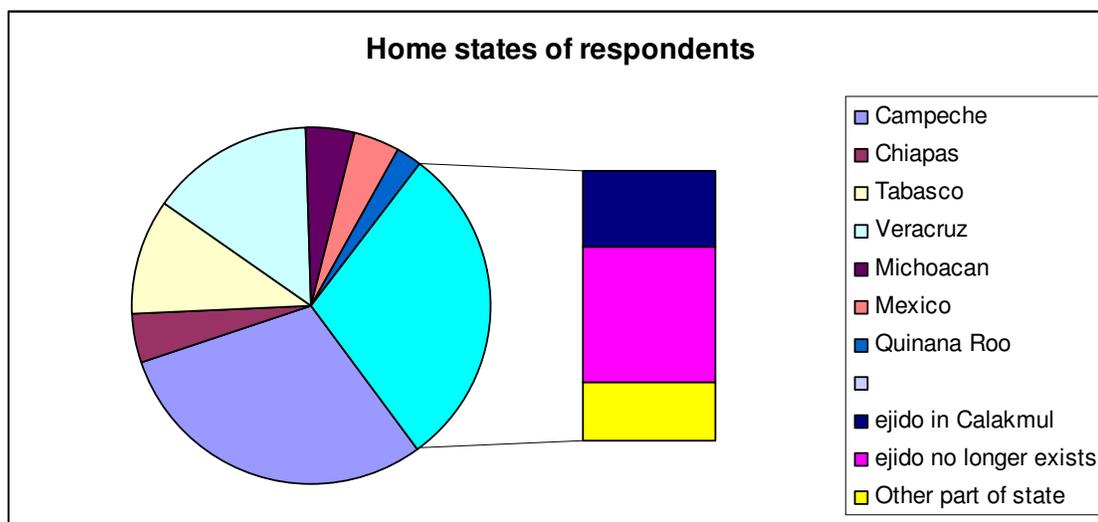
“Mucha de la gente en Calakmul no confía en el gobierno, y prefiere tener su terreno con nada que participar en algo relacionado con el gobierno o las otras organizaciones. [Many people do not trust the government, and they prefer to have their land with nothing on it than participate in something related to the government or other organizations.] [Personal communication and translation, July 2007.]”

However, I did not perceive the overall hostility from local people in the region towards conservation or participation in sustainable projects that was presented to me by NGO workers. There was a distrust of NGO workers and the government officials, mainly due to past corrupt politics and the lack of permanence of any sustainable development projects. What was apparent was that the majority of people felt unsupported, either by the government or by NGOs, in their attempts to pursue alternative economic strategies, such as eco-tourism.

4.3.4 Local Hostility or Local Diversity?

In a census taken by INEGI in 2005, only 32% of the region’s population was born in Calakmul (INEGI 2005). The majority of people migrated to the region following federal agrarian reforms in the 1970s. In hopes of cultivating land, they quickly found that the land was not useful for the type of agriculture they were accustomed to doing. Later, following the establishment of the reserve in 1989, people were forced to find new ways to use their land that was less damaging to the forest.

Figure 4.2 Home states of respondents



The diversity of local actors in Calakmul may contribute to the antagonism towards conservationists that is perceived by NGO leaders. Ejidos are often divided internally due to local rules and factionalism that are particular to each community (Haenn 1999). The internal divides within ejidos in Calakmul are based on ethnicity, gender, and social status. In my research, 33 interviews represented 10 ejidos, and were divided into 14 women and 19 men ⁴ (Table 1.1). 22 of the 33 informants were not originally from the region of Calakmul, but were migrants from the states of Tabasco, Chiapas, Michoacán, Veracruz, Quintana Roo, and other parts of Campeche State (Figure 4.2). Of the 11 informants born in Calakmul, only two had parents who were also from the region.

⁴ In my research, I contentiously spoke to both men and women. However, due to the limited number of interviews in my study, I chose not to draw specific conclusions based on gender.

However, the diversity of actors within the ejidos did not seem as disparate in regards to people's willingness to participate in government or NGO sponsored eco-tourism programs. 28 out of the 33 people told me that they *would be willing to participate* if they were invited, or more importantly, *if programs existed*. The main reason that five people were not willing to participate was because they did not need extra income. More striking in the interviews was that 18 out of the 33 people *were not even aware* that there were organizations that might help them promote eco-tourism on their lands. Only half of the people who were aware of the NGOs in the region had received financial or technical support for eco-tourism or other sustainable development activities. Overall, most people felt that the governmental and NGO interest in the region was solely economic, and that local well-being was the last of their priorities. An idea that was expressed by a number of people was that, "*Al gobierno y a las organizaciones sólo les interesa hacerse más rico.* (The government and the NGOs are only interested in making themselves richer) (personal communication 2007)."

4.3.5 Lack of permanence

Another essential point to tell the story of Calakmul is that most activities promoted by conservation NGOs as alternatives to destructive agriculture techniques are seasonal. Eco-tourism, apiculture, and agroforestry are not year-round activities, so people have no choice but to diversify their livelihood activities throughout the year. Households carry out several different activities throughout the year to support themselves. 30 out of 33 people interviewed said that they did more than one job to

sustain themselves and their families. As one woman stated, “*Aquí hacemos varias cosas para que siempre haya...para que no nos haga falta nada.* Here, we do many things so that we always have enough...so that we never run out of what we need (personal communication and translation, Hanson 2007 field notes).” Local people therefore were willing to participate in sustainable development activities, but did not consider them to be permanent sources of income. Eco-tourism was then viewed *as another means of survival* when alternative activities, such as apiculture and hammock sales, do not produce enough income for their families.

Local ejidos have taken measures to create internal support for eco-tourism. A tourism committee was formed in 2004 with representatives from 10 ejidos. The goal of the committee is to train people within the ejidos to create community-based eco-tourism projects. The committee is now recognized by the *Consejo Municipal*, and all 10 ejidos currently have projects and plans in the making.

4.4 Capacitación de Guías Naturalistas Bilingües

NGOs proposed that the most essential need in the region for both biodiversity conservation and economic development was the *capacitación* (training) of local people in conservation and its supporting activities. The directors believed that biodiversity conservation must be first on the agenda in order for potential economic development to occur. Therefore their eco-tourism activities have focused on preparing bilingual nature guides (*guías naturalistas bilingües*), who work mainly in the three high-end eco-tourism resorts. Unlike other parts of the Maya Forest (Norris et al 1998), community-based eco-

tourism projects in the CBR have not yet received sufficient attention or support from the two major conservation NGOs (TNC and PPY) in the region.

The decision to train local nature guides was partially based on an assessment carried out in 2005 to diagnose the potential for alternative or eco-tourism in Calakmul (Pronatura Península de Yucatán 2005). This assessment began by stating:

“El turismo se ha vuelto uno de los argumentos principales para la protección de los recursos naturales, un imán para promover inversiones y una vía para generar empleos en las comunidades rurales. [Tourism has become one of the principal arguments for the protection of natural resources, a magnet to promote regional investment, and a way to generate employment in rural communities] [PPY 2005:5].”

The assessment goes on to describe the current services and attractions in the region to promote tourism. *Capacitación* (training) of local people in tourism customer service and to be guides for eco-tourist activities was one of the main things found to be lacking in Calakmul to make eco-tourism a viable economic activity in the area, along with tourism promotion, and the extension of basic services (water, electricity, and gas stations) (PPY 2005:56). Soon after the assessment, an ambitious NGO program was formulated to provide a two-month course to teach local people to cater to the new eco-tourism industry.

4.4.1 Curso de guías naturalistas

PPY contributed to ‘community’ eco-tourism in Calakmul by providing a training course for 10 people from different ejidos in the region to become bilingual nature guides. The course lasted two months, and was held at one of the region’s five-star eco-

tourism lodges, with which the NGO has a strong connection. The potential guides were taught scientific names of several plant and animal species, basic English, and a great deal of information about the ecology and archeology of the region.

There were different reactions from the individuals who took the course. Some of the course participants were already employees in the region's eco-hotels, but others were from ejidos located near tourist attractions. In the next sections, I will highlight the cases of two people who took the course in order to give specific examples of how the information and knowledge promoted by NGOs are accepted or rejected by local people. Both participants were under the age of twenty-five and grew up in the region of Calakmul.

4.4.2 Guía uno - Manolo⁵

Manolo was one of the students selected for the course. He was born in the region, but his parents were migrants from neighboring states. He and his family were native speakers of Chol Maya. Manolo had not finished elementary school, a common scenario for many young people in the region. According to a local school teacher, "*aquí en Calakmul, solo 3-4 de 30 estudiantes salen para hacer la prepa.* (Here in Calakmul, only 3-4 out of 30 students go on to high school.) (Personal communication, 2007)." For that reason, Manolo was very excited to take the course, hoping the training would help him find a better job. The problem for him was that most of the information provided in the course was created at the level that would require at least a high school education to

⁵ Manolo and Jimena are pseudonyms for my informants. Names were changed to protect their privacy.

understand. Due to the difficulty of the course material, this student left the course completely confused, and even felt humiliated;

“El chico salió del curso y se sintió pisoteado, porque no aprendió ni madres. Hasta se sienta humillado, porque sus compañeros lo vieron ir al curso y ya que salió no retenía nada. El curso no era hacia un nivel para él, era hacia un nivel más para arriba. [Personal communication 2007].”

The student’s family even thought that the way the course was carried out gave them the impression that it was used as an indirect form to humiliate the young people of the region (*“Ese tipo de cosa [el curso] es una forma indirecta de humillarlos [a los jóvenes nativos de la region] [Personal communication 2007].”*) Manolo had grown up in the forest, and his family insisted that he knew the forest better than any of the people giving the course.

The family explained to me that a main problem they saw in the course was that PPY did not go through the *Consejo Regional*. As mentioned in Chapter Three, the purpose of the Regional Council is to approve what outside projects are carried out in Calakmul, so that local people can decide what projects are appropriate in the region and for whom. However, PPY did not go through the *Consejo*. The NGO has connections with one of the large eco-tourism resorts in Calakmul, so the course was promoted and held there, without approving the course material with the *Consejo*. However, the fact that the NGO did not go through the regulating *Consejo Regional* made a statement that was understood by some individuals to undermine the importance of local control over the activities in the region.

4.4.3 Guía dos -Jimena

The second person I spoke with who had taken the PPY course was Jimena. She was also born in the region, but she and her family speak Spanish (*castellano*) as their first language. Jimena had finished school through the tenth grade. Her experience in the course was very different from that of Manolo. In the course, she learned a lot about biodiversity conservation, and also a little bit of English. She was very proud to say that following the course, she was able to guide people through some of the major natural and archeological attractions in the region. She explained to me that the training changed the way she sees and describes the nature around her, and that she was eager to learn more. What was interesting to me in the interview with Jimena, was how glad she was to have learned the ‘correct’ way to describe nature in Calakmul;

*“Ves de distinta manera las cosas cuando te enseñan los científicos...Ahora no puedo usar sólo una palabra para explicar todo que hay aquí. Mi mamá dice montaña [para describir la naturaleza], pero ya veo que eso no es correcto...Ya se que se dice selva media o selva alta, o se tiene que nombrar cada especie de árbol... Estoy contenta que ahora se la manera correcta de describir a ella [la naturaleza]. You see things in a distinct way when you are taught by scientists... Now, I can’t use just one word to explain everything there is here. My mom calls the nature here *monte*, but now I see that this is wrong... Now I know that you have to name every tree by the species. I am happy that now I know the correct way to describe nature here. [personal communication 2007].”*

The ideas expressed by Jimena demonstrate not only that education provided by NGOs has been received positively by some individuals, but it also reveals that the knowledge provided by NGOs is presented as the *right* way to view and value the forest. Although the knowledge provided in the course was received differently by the two students, their cases reveal that NGO presence and actions in Calakmul have a significant effect on how

people consider external knowledge and how they value their own ways of knowing the forest.

4.5 Summary

NGO directors working in CBR saw that social and political conflicts have impeded local support for conservation projects. However, NGO actions and suppositions of community support are perpetuating a social space in Calakmul that has been divided into separate realms. Nonetheless, local perspectives toward conservation in the region have changed. Whereas ten years ago many people viewed the CBR and its managers with disdain, they have now found that the reserve can bring tourists and outside economic possibilities.

The case of Jimena shows how some individuals have embraced the NGO's visions of the environment in Calakmul, and is eager to understand the scientific knowledge that NGOs provide for them. However the case of Manolo demonstrated that many people consider the NGOs as an outside force that is trying to undermine the knowledge and control over the actions that affect their communities. Overall in the region, many people expressed that they would be willing to participate in eco-tourism or other alternative development projects sponsored by NGOs, but they have yet to see sufficient support for those activities.

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

5.1 Introduction

The goal of this thesis was to examine the dynamics between two large-scale NGOs that sponsor conservation activities, including eco-tourism, and the populations living in or on the edge of the Calakmul Biosphere Reserve (CBR). I used the context of the CBR, with its diverse social, political, and ecological actors, to answer questions that are central to many international conservation efforts carried out in natural protected areas (NPAs).

In the CBR, the most prominent distinction in attitudes or ideas surrounding biodiversity conservation and resource management was between two roughly divided groups. Firstly, there were those individuals, namely external actors like NGO directors, who believe in biodiversity conservation as ‘the key to the survival of the planet.’ The second group is made up of local populations who view the forest as a place to live, and whose ultimate goals are not first to ‘save the planet,’ since their political and economic situation makes their own families’ survival their primary concern. In addition to dividing actors in the CBR on conceptual grounds, many other factors, such as migration, internal factionalism, national policies, and international concerns, contribute to the complex circumstances in the CBR.

5.2 What is being conserved and for whom?

For the reason that so many groups have distinct ways of valuing and relating to the environment in the CBR, the rhetorical inquiry, “*What is being conserved and for*

whom?” is fundamental for understanding how the relationship between these actors affects how conservation is carried out in Calakmul.

In chapter two, it was possible to see how the constructions of nature that are favored by conservationists were shaped through a long history of European and American ideas about nature and humans place in it. It is often taken for granted by the global conservation community that the Western constructions of nature promoting NPAs are and should be applicable to many rural areas around the world. Also taken for granted is the idea that Western/Northern forms of knowledge will provide the best means to control and protect different landscapes.

In Calakmul, since the majority of people are migrants from other parts of Mexico, their knowledge of the environment is believed to be minimal. The Mexican government and conservation-oriented NGOs delegate which human actions toward the environment are considered to be appropriate. The two NGOs considered in this study represent forms of knowledge that are based on the legitimacy of science. The people living in Calakmul were pressured to understand their environment through this same discourse. Yet, this study has aimed to show that while distinct people may have different manifestations of a conservation ethic, no one in my study was opposed to the protection of the tropical forest. While NGO workers described the region as being *rich in biodiversity*, people living in the area frequently described the forest as a *riqueza* (treasure) that provides both work and life for many people.

However, it was apparent that past social conflict in the region created a social space in Calakmul that has is divided into separate realms. As one individual told me in

reference to NGO directors in charge of programs in Calakmul; “*Ellos (las personas trabajando por las ONGs) hacen su cosa, y nosotros hacemos la nuestra.* (They do their thing and we do ours.) (Personal communication 2007).” This attitude and reality created a disconnection in ideas and actions, where both NGO workers and individuals from ejido communities in Calakmul viewed negatively the willingness of the other group to support their needs and expectations.

This disconnection was also evident in that the ideas expressed to me by NGO directors were far different from those presented to me by local populations. NGO employees stated that many local people were unwilling to participate in programs promoted by the government and outside organizations, and most local communities did not see the benefits of conservation unless there were economic incentives. However, the individuals I interviewed did not value their land or the forest solely (if at all) in economic terms. They did not consider their land to be a commodity, because it was the place where they lived and worked. Secondly, the majority of people were willing to participate in sustainable development programs, if those programs existed. Most people interviewed did not even know that outside organizations existed that would help them in alternative sustainable activities such as eco-tourism. In both a literal and figurative sense, the Calakmul described to me by NGO leaders was not the same as the Calakmul that was perceived by individuals who lived in the region.

5.3 Changing Values

The history of migration, international interests, and national environmental politics discussed in chapter three illustrated the conflicts that created the present circumstances in the CBR. A second question addressed in this thesis built on that history by asking “*whether and how conservation values of both NGO program directors and local populations change over time?*” The heterogeneity of local and external actors contributes to the continuously changing local situation, where the diverse interests of the area’s disparate groups are either represented or overlooked in the use of lands and forests in the region of Calakmul.

For both the TNC and PPY, the two organizations’ primary goals in the CBR are the conservation of ecosystems and the protection of biodiversity. Yet, in recent years, both organizations’ objectives began to include the promotion of livelihoods that support forest health and biodiversity conservation. The activities they promote in Calakmul include sustainable forestry, cultural and nature-based tourism, and the creation and sales of and local crafts including wood carving, embroidery and hammocks (PPY 2008; TNC 2008). The training and expertise that most NGO leaders have is in conservation biology, and therefore, they are new to the field of alternative development.

Local attitudes toward conservation in the region have also changed since the reserve’s establishment. Agrawal’s (2005) notion of *environmentality* is reflected in the case of the Calakmul Biosphere Reserve. Whereas ten years ago many people viewed the CBR and its managers with disdain, some individuals have now found that the reserve can bring tourists and outside economic possibilities that do not require intensive land

use. In contrast to ethnographic research carried out in the 1990s, all interviewees in this study stated that the conservation of the forest was necessary, both because it is necessary for their own livelihoods, and because it is imposed by law.

A number of individuals in Calakmul have become advocates for the biosphere reserve and have embraced the external visions of the environment as revealed to them through NGO programs, such as the PPY program to train local nature guides. They are enthusiastic about incorporating the scientific knowledge that NGO programs and outside *científicos* may offer. However, there are other individuals who consider that NGO actions clearly demonstrate an imposition of external knowledge that belittles the importance of local understanding of the region and its resources. In this case, Sundberg's (1999) concept of *NGO landscape visions* applies directly to the situation in Calakmul. In the CBR, NGOs do shape how local people view and value the environment, by basing their environmental education and development programs on Northern constructions of nature. Although not all people in Calakmul have embraced this external knowledge, the presence of the NGOs in the region has caused local people to at least question the value of their own understanding of the forest.

5.4 Lessons from Calakmul

One of the foremost problems that was expressed to me by individuals living in Calakmul is that the NGO programs have concentrated on a certain few ejidos that have historically received a great deal of support from outside groups. Those same ejidos are also the sites where most social science research has taken place (Erickson 1999; Haenn

2005; Murphy 2003; Radel 2005). Other ejidos in the region would very much like to be included in projects. However, due to beliefs that the communities have too many internal conflicts, and that past hostility toward the government and external actors persists, NGOs have overlooked them in their programs.

A main lesson that can be drawn from the research presented here is that in the CBR, the large diversity of both local and external actors is a fact that must neither be overlooked nor simplified. Discourses used by disparate actors to promote and control forest conservation portray their distinct cultural values and histories. The intent of this study was to show that the local and global conservation values in the CBR are not as contradictory as some groups perceive them to be. Although the study presented here was limited to a small group of people with diverse perspectives, the results nonetheless show that people living in the region want to protect their lands and their forests.

Future research in Calakmul should begin by addressing the complexity of actors in the region, yet should not focus solely on how different forest valuation systems contrast, but how they can be combined and used to support the goals of all individuals whose work and lives depend on successful forest, land, and natural resource management.

*“No es solamente el monte, al ver lo verde, es vida, es nuestra vida
[personal communication 2007].”*

APPENDIX A: ACRONYMS

CBR: Calakmul Biosphere Reserve

CONANP: Comisión Nacional de Áreas Naturales Protegidas/National Commission of Natural Protected Areas

GEF: World Bank's Global Environmental Facility

ICDP: Integrated Conservation and Development Program

INE: Instituto Nacional de Ecología/National Ecology Institute

INEGI: Instituto Nacional de Estadística Geografía e Informática/National Institute of Geographical and Informational Statistics

INGO: International Non-Governmental Organization

IUCN: International Union for the Conservation of Nature and Natural Resources (World Conservation Union)

MAB: UNESCO's Man and Biosphere Programme

NAFTA: North American Free Trade Agreement

NGO: Non-Governmental Organization

NPA: Natural Protected Area

PPY: Pronatura Península de Yucatán

PROCAMPO: Programa de Apoyo Directo al Campo/Direct Rural Support Program

PROCEDE: Programa de Certificación de Derechos Ejidales/ Program for the Certification of Ejidal Rights

PRI: Partido Revolucionario Institucional

SEMARNAT: Secretaria del Medio Ambiente y los Recursos Naturales/ Mexican Secretary of Environment and Natural Resources

TNC: The Nature Conservancy

UNESCO: United Nations Educational, Scientific, and Cultural Organization

WCPA: World Commission on Protected Areas

WWF: World Wildlife Fund

APPENDIX B: HUMAN SUBJECTS DOCUMENTATION

Human Subjects Protection Program


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 P.O. Box 245137
 Tucson, AZ 85724-5137
 (520) 626-6721
<http://www.irb.arizona.edu>

6 June 2007

Anne-Marie Hanson, student
 Scott Whiteford, PhD, Advisor
 Department of Latin American Studies
 PO Box 210158B

BSC: B07.198 CONSERVATION, CAMPESINOS, AND CALAKMUL: CONFLICT OR CHANGE?

Dear Ms. Hanson:

We received your research proposal as cited above. The procedures to be followed in this study pose no more than minimal risk to participating subjects and have been reviewed by the Institutional Review Board (IRB) through an Expedited Review procedure as cited in the regulations issued by the U.S. Department of Health and Human Services [45 CFR Part 46.110(b)(1)] based on their inclusion under *research category 7*. The need for documentation of informed consent has been waived for the study, as the research involves no risks or procedures for which consent is normally required outside of the research context as stated in 45 CFR 46.117(c)(2).

Although full Committee review is not required, notification of the study is submitted to the Committee for their endorsement and/or comment, if any, after administrative approval is granted. This project is approved with an **expiration date of 6 June 2008**.

The Institutional Review Board (IRB) of the University of Arizona has a current *Federalwide Assurance* of compliance, *FWA00004218*, which is on file with the Department of Health and Human Services and covers this activity.

Approval is granted with the understanding that no further changes or additions will be made to the procedures followed without the knowledge and approval of the Human Subjects Committee (IRB) and your College or Departmental Review Committee. Any research related physical or psychological harm to any subject must also be reported to each committee.

A university policy requires that all signed subject consent forms be kept in a permanent file in an area designated for that purpose by the Department Head or comparable authority. This will assure their accessibility in the event that university officials require the information and the principal investigator is unavailable for some reason.

Sincerely yours,

Theodore J. Glatke, Ph.D.
 Chair, Social and Behavioral Sciences Human Subjects Committee

TJG/mm

Cc: Departmental/College Review Committee

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