Working with community-based organizations to develop nature tourism: a case study from the tropical lowlands of Bolivia

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Working with Community-based Organizations to Develop Nature Tourism: a Case Study from the Tropical Lowlands of Bolivia

by

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B.A. Gettysburg College, 1994

submitted in partial fulfillment of the requirements

for the degree of

Master of Science in Resource Conservation

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Approved by:

Chairperson

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ABSTRACT

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Working with community-based organizations to develop nature tourism: a case study from the tropical lowlands of Bolivia

Chair: Stephen Siebert

The involvement of community-based organizations (CBOs) in conservation planning and implementation has been promoted as a means to insure that community voices are heard and that basic needs of a community are addressed in conservation efforts. However, it is highly debatable as to whether community groups have the capacity to implement and manage many projects, much less ensure that a project meets the needs of all members of the community. The strengths and weaknesses of CBOs are based on several factors, particularly financial support and availability of other resources, political standing within the community, and relationships with outside influences and support groups such as non-governmental organizations (NGOs). This paper explores the role of outside organizations in promoting a community-based tourism initiative in the eastern tropical lowland town of Buena Vista, Bolivia. A project team of five United States Peace Corps volunteers representing Bolivian counterpart organizations lived in Buena Vista for two years (1998-2000) and worked with the Alcaldia (municipal government) and community members to further the community’s ecotourism initiatives. As a project team, the group focused on a conservation and tourism development plan for Curichi Cuajo, a small wetland area located between the town center and the northeast boundary of Amboró National Park and Integrated Management Area. Project planning and preliminary field observations indicate that a small number of community members with political ties and decision-making authority (e.g. association leaders and government officials) are likely to benefit disproportionately from tourism projects, while the majority of community residents will benefit indirectly, if at all. The presence of foreign nationals and their involvement in tourism efforts in Buena Vista suggests that outsiders are benefiting from tourism development at the expense of locals, who are more likely to bear the social and environmental impacts of tourism over the long term. Peace Corps should consider issues related to project sustainability and reform their involvement in ecotourism initiatives in order to represent and benefit a wider proportion of community residents.
ACKNOWLEDGEMENTS

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To my Amboró Initiative colleagues Joel Franqui, Mike Dockry, Al Liu, and Chris Devers, a heartfelt thank you for working so tirelessly to explore, develop, and promote the ideals we share. I would also like to thank Peace Corps Bolivia Directors Mimi Smith, Esteban “Ryan” Taylor, and Remigio Ancalle, for their continued support and encouragement, often in the face of tough development issues. Thank you to my wonderful family and friends, for encouraging and supporting me from near and far, for listening to my stories, for helping me to grow and become a better person as a result of this experience. And perhaps most sentimentally, I extend a warm Saludos y Gracias to the people of Bolivia for their patience, generosity, enthusiasm, and understanding despite our many differences. ¡Viva Bolivia en mi corazón!
PREFACE

The following account reflects observations and lessons learned based on two years of Peace Corps service in Bolivia in 1998-2000. After receiving acceptance into the Peace Corps Master's International Program, I completed two semesters of graduate study at The University of Montana's School of Forestry in Missoula, Montana (1997-98). I was invited to serve as a Peace Corps volunteer in the Natural Resources Sub-Program in Bolivia, South America, where my service began on May 25, 1998 and ended on August 18, 2000. During three months of community-based training, I received Spanish language training as well as technical training in soil conservation, agroforestry, and environmental education practices. I served as a volunteer in the city of Santa Cruz, where I was assigned to the Environmental Education Department of the Noel Kempff Mercado Museum of Natural History. I assisted the department in developing interactive educational materials, promotional items, and exhibits, as well as overseeing daily operations in the main exhibit hall of the museum. I also managed a USAID Small Project Assistance Grant for improvements to the museum store designed to promote the self-sufficiency of the Environmental Education Department.

In addition to working in the city of Santa Cruz, I served as a museum representative in working with a "cluster" group of Peace Corps volunteers, whereby five volunteers worked together on a wetland project in the town of Buena Vista. The following account reflects observations made in the field and offers suggestions for working with local government officials and community-based organizations to facilitate broader community involvement in and potential economic benefit from local tourism initiatives.
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INTRODUCTION

The role of community-based organizations in conservation

Local community-based organizations (CBOs) have developed in societies regardless of social structure or level of development, particularly in response to the need or desire of one or more individuals in the community (Narayan 1995). Studies suggest that self-directed “entrepreneurship” is on the rise in developing countries and may occur more rapidly in response to a particular situation or crisis (Rupasingha et al. 1999). In the emerging fields of rural tourism, focusing on undeveloped natural areas (e.g. ecotourism, nature-based tourism, adventure tourism), the ‘crisis’ to which CBOs and other groups are responding is environmental, social, and cultural degradation that often results from tourism development (Rupasingha et al. 1999). How and to what extent CBOs can control and manage development warrants investigation.

In general, a CBO is any local group designed to promote the interests of specific member or members within a community. Often CBOs represent narrowly defined interests rather than the interests and well-being of an entire community (i.e. not all community members), due to the fact that communities are not homogenous and therefore do not share all interests and objectives (Sproule 1996; Moreno et al. 1998). The exact structure of a community-based organization is dependent upon several factors, particularly vested or common interest, social and political mobility, and access to financial and other resources (Rupasingha 1999). Local leadership of community organizations may occur naturally through outspoken individuals. While an organization may prove successful under the direction of a particular leader or leaders, it may also be
limited by the vision and specific actions taken by the people in charge. An organization may also be influenced by outside forces. An example is the local government authority, which may limit or take responsibility for the successes of a group’s actions by claiming them as their own (Korten 1986).

Traditionally, tourism has evolved in developing countries under the control of and to the benefit of wealthy financial investors, many of whom are foreign and possess a Western, pro-development bias toward nature and tourism (Guha 1989). Traditionally, these developers have not sought the input or consideration of local communities, an issue that draws a great deal of criticism in the literature on sustainable development and integrated conservation and development projects (McLaren 1998; Belsky 1999; Robinson and Redford 1994). More recently, the trend is to promote the involvement of community members and organizations in all community ventures, regardless of their particular political status or affiliation, their attitude toward environmental issues, their credibility in the community, and perhaps most significantly, their skills and expertise in the development of tourism and the service industry (Moreno et al. 1998). Korten (1986: 275) suggests that, despite the fact that projects often include steps to involve local organizations, the "institutional framework that defines the legal status, rights, and authorities essential to the organization’s effective performance" is often overlooked.

In order to fully analyze the potential roles and limitations of community involvement in tourism initiatives, it is necessary to first address the particular strengths and weaknesses of community-based organizations. The main strength of CBOs in contrast to regional organizations, governments, and corporations arises from an inherent "field presence", the physical presence in a community and personal identification as
insiders (Nayaran 1995; Sproule 1996). Community-based organizations may possess a
clearer, more detailed understanding of local political and social issues than outsiders,
thereby possessing a real voice to influence policy (World Bank 1998). CBO members
are often the ones who make important decisions and carry out operational
responsibilities, provide financial and capital resources, supply labor and materials, and
facilitate communication, including the sharing of information and lessons-learned.
CBOs often rely on local services and employ local people. The result is that resources
are more likely to remain within a community rather than being lost to outside providers,
a concept known as “leakage” (Wearing and Neil 1999; McLaren 1999). The
community-based approach may foster a sense of ownership and personal investment in
the project, although competition may arise within the group due to individual opinions
or preferences (World Bank 1998). Communication is usually well-established within
small communities due to the high level of social interaction and knowledge (Rupasingha
et al. 1999). CBOs may also be particularly effective in rural settings where the local
government and outside organizations are less supportive of the community (Wearing
and Neil 1999).

Despite their many strengths, CBOs also have inherent weaknesses and may be
compromised by relying upon the general community to undertake complex tasks such as
tourism development. An underlying theme within the sustainable development context
is that the inherent bureaucracy and slower work pace prevalent in lesser-developed
nations limits productivity and project success (Moreno et al. 1998). Local organizations
may have weak institutional capacity, limited finances, or lack overall structure, which
may result in compromised action or failure (Nayaran 1995). Small organizations
without connections to larger affiliates, such as non-governmental organizations (NGOs), may lack communication with regional groups and often work in isolation in areas that are confined to small-scale intervention (Sproule 1996).

Although CBO members may live and work in a community and demonstrate a clear field presence, their status as insiders does not guarantee that they are acting in a well-informed, unbiased manner, particularly in politically-charged situations. The most significant drawback to CBOs is that community representatives may lack the education to understand the broader social and economic context in which they are working (Carroll et al. in press; Nayaran 1995).

From a political perspective, social inequities, favoritism, and personal agendas are sources of conflict within a community group. Such inequities result from the highly political nature of close relationships within a community. Political agendas, including corruption, may weaken or prevent project success; in many cases this situation cannot be avoided because corrupt officials exert power through government regulations (Hecht 1997). Perhaps most importantly, inequities in gender, class and patronage may result in sectors of the community, particularly women and the poor, being left out and not benefiting from community projects (Belsky 1999; Scheyvens 2000; World Bank 1998).

Recent studies suggest that for a community-based project to succeed, it may be necessary for everyone in the community to benefit in some way (Sproule 1996; Belsky 1999). Although not all community members will necessarily be involved in a project, Smith and Comer (1994) suggest that a “critical mass” or uniform, minimal number of residents is necessary for a project to be implemented successfully. In a community-based initiative, there will be both direct and indirect participants (Sproule 1996).
Furthermore, researchers concede that the community-based approach is not appropriate in all development and planning activities, and in some cases may not provide benefits to the “poorest of the poor” (Narayan 1995).

Another challenge regarding CBOs is the presence of individuals who seek handouts or are willing to take on projects only to receive money or other benefits. The presence of a “free-rider” looking for a handout or the “shirker” who does not contribute fully can be detrimental to a project (Rupasingha et al. 1999). If community members are not truly committed or willing to invest themselves personally and take ownership of project, the likelihood of success may be diminished.

**NGOs: the role of outside groups in assisting rural communities**

While self-sufficiency in community-based organizations is highly desirable, development theory suggests that much of the work carried out in rural communities is at least partly led or influenced by third parties (Korten 1986). Governments typically exercise power in rural regions, and non-governmental organizations often assist, facilitate, or manage projects in conjunction with local communities (World Bank 1998).

The World Bank (1996) defines NGOs as non-profit organizations that are "entirely or largely independent of government, not operated for profit, and exist to serve humanitarian, social or cultural interests, either for their members or for society as a whole." By this definition, NGOs may be community-based organizations, or they may be regional, national, or international groups that work on a wider scale. NGOs include federations or cooperatives, research groups, professional associations, and religious and environmental organizations (World Bank 1998; Narayan 1995). They may be strictly
operational or serve as advocacy organizations, and often serve an intermediary function by channeling money and other resources to CBOs. NGOs also provide technical services and other assistance, and provide capacity strengthening to promote long-term sustainability, particularly where these services are lacking in a community (Nayaran 1995). NGOs have been utilized in projects supported by development organizations such as the World Bank, which has increased its reliance upon NGOs in recent decades due to their practical experience in emergency relief and participatory development (Carroll et al. in press).

The non-profit sector has grown considerably in recent decades and plays a prominent role in development assistance, with many partnerships described in sustainable development literature as “cross-sector” initiatives involving industry, government, private and community sectors (Sitarz 1998, in Selin 1999; Clark 1999). Generally, the type and roles of NGOs are similar to but more varied than that of CBOs. NGO functions include the provision of goods and services, information distribution or facilitation that enables citizens to voice aspirations and concerns, and assistance in promoting accountability and transparency of government programs and officials (Clark 1991).

Although the role of the NGO is to act in a manner that does not involve government and usually does not generate a profit, their status does not guarantee that these organizations will act independent of outside influence. Leaders of an organization must formulate policy and make executive decisions, keeping in mind the interests of the organizations’ members, donors, and board of directors. Some NGOs work on a contract basis and must meet certain deadlines that are not feasible under the constraints of a
Community setting. Such accountability may influence NGO activity and can limit partnership opportunities with a community. Finally, NGOs do not necessarily employ the participatory process when working in community settings; often they work with stakeholders and view community members only as recipients of provided services (Narayan 1995). This approach can diminish a group’s sense of ownership toward a project, which may lead to loss of interest and ultimately project failure.

World Bank collaboration with NGOs is increasing rapidly, from 12 percent of Bank funded projects in 1990 to 38 percent in 1999, with 54 percent of approved projects involving NGOs in some capacity (Clark 1999). Clark (1999) claims that project involvement of NGOs is its primary mode of achieving participatory development in rural communities. Although NGO participation has increased in recent decades, one World Bank representative suggests that NGO involvement in World Bank projects is generally "not the norm" and that opportunities to benefit the poor may be limited as a result of using this approach (Carroll et al. in press).

NGOs and CBOs in conservation and development in Bolivia

The Bolivian Vice-Ministry of Public Investment and External Financing reported that 1161 non-governmental projects operated in Bolivia in 1998, with some NGOs operating in more than one sector or department of Bolivia (Instituto Nacional de Estadistica (INE) 2000). The NGOs working in Bolivia were predominantly domestic in origin, with a total of 893 national NGOs compared to 268 foreign NGOs. The foreign NGOs were from the United States, Canada, Germany, Spain, England, Italy, Switzerland, Sweden, Denmark, France, and the Netherlands. The organizations focused
on developmental sectors including agriculture, education/culture, health, municipality strengthening, environment, small business/crafts development, rural sanitation, communication, housing, energy, mining, legal assistance, and microcredit programs.

The Department of Santa Cruz reported an active presence of 93 NGOs, of which only 10 domestic NGOs and two foreign NGOs were working in the project site of Buena Vista (Moreno et al. 1998; Portugal 1997). In the Peace Corps tourism project in Buena Vista, the Mayor's office, or Alcaldía, served as the main project counterpart and influenced the majority of activities undertaken in the community. The project also worked with private industry (e.g. hotel association representatives, tourism operators) and several local CBOs including a regional soil conservation agency (PLUS), a wetland conservation group (MACUCY), and a community association of artisans (Artecampo).

The purpose of this paper is to evaluate prospects for project sustainability under a variety of influences, including the incorporation of local community members and CBOs in project development and implementation, the role of outside groups such as Peace Corps and USAID, and the challenges of working with certain members or groups from the community (i.e. local government officials, tourism operators) who may not promote a wide distribution of benefits to all community members. Within the sustainable development context, only community-based projects that have been developed, implemented, and are controlled by a critical number of community members are likely to be sustainable over the long-term. The Curichi Cuajo Municipal Reserve project is analyzed in this context, and suggestions are made to improve Peace Corps' role in promoting community-based conservation and development.
CASE STUDY IN BUENA VISTA, BOLIVIA

Tourism in Bolivia

Bolivia is one of the highest, most isolated, and least developed countries in South America. Tourism in this environment can be a challenging, uncertain, but rewarding experience for travelers. International arrivals to Bolivia increased from 50,000 in 1984 to 387,000 in 1998 (Meijer 1989; INE 2000). Bolivia's role in the international tourism market has increased in recent years, partly due to the rising number of adventure tourism companies that promote Bolivia as a remote and unexplored location (Kemper 2000).

Tourists who visit Bolivia range from members of organized tour groups who pay thousands of dollars to participate in natural history expeditions or cultural tours, to the *mochilero* or backpacker travelers. Backpacker tourists are less restricted in following an itinerary because they often plan and engage in trips on their own or in small, self-organized groups (Meijer 1989). Backpackers seek modest accommodations, use guidebooks and confer with other backpackers and budget guidebooks, and reportedly contribute more tourist dollars to the Bolivian economy than tourists participating in organized tours (Murphy 2001; Meijer 1989).

Landlocked countries such as Bolivia may be more susceptible to external control of the tourism market, particularly regarding airlines, tour operators, and competition from neighboring countries that have coastal access and more developed tourism infrastructure and services (Meijer 1989; Cater 1988). This situation increases the potential for leakage associated with tourism. Researchers estimate that as much as 90% of tourism revenue is lost to foreign operations in less-developed nations such as

Because few airlines serve Bolivia and airfare is costly, many travelers arrive in Bolivia over land by way of a neighboring country. In a study of 270 tourists interviewed in and around the capital city of La Paz, Meijer (1989) discovered that most tourists had flown to South America by way of other major cities in South America, particularly Lima, Peru, and Rio de Janeiro, Brazil. Thus, the Bolivian government, who receives tax revenue from the two Bolivian carriers Lloyd Aero Boliviano and Aerosur, loses potential tourism revenue due to competition with neighboring countries.

Bolivia is a diverse country; it ranges from jungle lowland regions that cover the eastern half of the country to the altiplano or highland Andean region, which lacks vegetation and water. Despite the physical challenges of the altiplano, the area is the most populated part of the country and also receives the most international visitors (INE 2000; Meijer 1989; Ballivián, pers. com.). The majority of foreign visitors to Bolivia focus on the capital city of La Paz and surrounding highland areas, including the ancient settlement of Tiwanaku and the Lake Titicaca region along the Peruvian border. La Paz is part of the Machu Picchu-Cuzco-Lake Titicaca-La Paz circuit, and is usually a side trip for tourists visiting the popular, world-renowned Machu Picchu World Heritage site (Mitchell and Reid 2001; Meijer 1989). Other popular destinations in the Bolivian altiplano include the Yungas, a transition zone between the Andes highlands and the Amazonian lowlands, the ancient mining town of Potosí, and the Salar de Uyuni, a desert area in the southern part of Bolivia near the Chilean border that offers salt pans, volcanoes, frozen lagoons, geysers and bubbling mud pits, as well as an excellent opportunity to see Andean fauna such as llamas and flamingos (Swaney 1996).
To a lesser extent, international tourists visit the lowland areas of eastern Bolivia, including the dry Chaco plain along the Paraguayan and Argentine borders; and the underdeveloped swamps, savannas, rainforest and dry forest scrub of the Bolivian Upper Amazon Basin. The most popular lowland destination is the Pantanal area, which offers one of the best wildlife viewing sites in South America including an opportunity to see capybara, tapirs, caimans, great rheas, and anaconda snakes (Swaney 1996). However, because the Pantanal is primarily located across the Bolivian border in Brazil, and Brazil offers better service and a wider range of Amazonian destinations, most tourists visit Brazil rather than Bolivia when seeking an Amazon experience (Miller, pers. com.; pers. obs.).

Buena Vista is located 100 kilometers outside of the city of Santa Cruz de la Sierra, the capital city of the Department of Santa Cruz. The town is situated along a highway connecting two major cities, Santa Cruz and Cochabamba, and is easily accessed by private transportation, public buses, or taxis. Buena Vista is located near the Ichilo River, which is a tributary of the Mamoré River within the Upper Amazon Basin. Although lowland territory comprises more than half of Bolivia, the Bolivian Amazon is sparsely populated. Less than one million of Bolivia’s population of 8,300,000 resides in these areas, with most residents concentrated in the few cities in the region (Munn 1998; INE 2000). Buena Vista is the northern gateway community to Amboró National Park and Integrated Management Area. Despite the park’s attraction to international tourists, the majority of visitors to the town are Bolivians from Santa Cruz who come on weekends and holidays. Bolivians often visit family members in the area and participate in group activities, while international tourists are more likely to visit Buena Vista in
search of scenic views, hiking, birding, and other recreational opportunities.

**System of National Protected Areas (SNAP)**

Recent legislation in Bolivia suggests that environmental awareness is growing in the country. Since the first national park was established in Bolivia in 1965, the system of protected areas has grown considerably. In 1998, SNAP consisted of 13 national parks, 16 natural reserves, 6 natural areas, 4 refuges, one regional park, and one ranch (Herrera et al. 1998).

Despite the fact that national parks have existed in Bolivia for decades, it was only in 1992 that Bolivia declared its first environmental law, and in 1995 that it established a National System of Protected Areas (SNAP) (Instituto de Derecho Ambiental (IDA) 2001). The National Protected Areas Service of Bolivia (SERNAP), under the Bolivian Ministry of Sustainable Development and Environment, oversees national parks and other protected areas. The current system of protected areas encourages tourists to visit most national parks and reserves, provided that access is geographically and politically feasible. Many national parks and other protected areas in Bolivia are large, relatively untouched wilderness areas that do not have well-developed visitor facilities. Furthermore, some witness political conflicts involving park boundaries and nearby communities.

Under the Ministry's recent guidelines, authorities have proposed basic national park management guidelines, including the use of a fee structure to provide income for parks; the development of tourism infrastructure including food, lodging, equipment and transportation rental; and the incorporation of visitor services such as trained guides and
promotional materials (Ministerio de Desarrollo Sostenible y Medio Ambiente 1998). Most Bolivian parks have inadequate park facilities and services, including logistical support for park guards (Portugal 1997; Justiniano 1995; pers. obs.). Thus, many parks are essentially "paper parks," that is they exist on paper but lack substantive management.

As a result of inadequate park management, international conservation groups and development NGOs are assisting Bolivians in protected areas management. Many international conservation organizations such as the World Wildlife Fund, The Nature Conservancy, and Conservation International have declared the Bolivian Amazon Basin as one of their top conservation priority sites (Hecht 1997), and are funding sustainable tourism development combined with bilateral protection agreements to promote biodiversity conservation.

**Project area: Amboró National Park and Buena Vista**

Amboró National Park and Integrated Management Area was originally established in 1973 as the Lieutenant German Busch Natural Reserve. The 180,000 hectare reserve was upgraded in 1984 and declared Amboró National Park (IDA 2001). (See Figure 1.) The park was established to protect primary forests and important watersheds; to promote scientific research; to provide recreation opportunities; and to conserve biological diversity (Moreno et al. 1998). At that time, park regulations prohibited hunting, fishing and wood extraction, which were important subsistence activities but were viewed by park officials as detrimental to the biological integrity of the area (Moreno et al. 1998). The first park director was Robin Clarke, a British
ornithologist who worked with Noel Kempff Mercado, a Bolivian zoologist, to secure legal national park status for Amboró. Clarke and three park guards, local peasants from surrounding communities, served as the initial management staff for the entire park area, and were responsible for establishing the first office for the park in the northern access community of Buena Vista (Clarke 1999).

Figure 1. Map of Project Area

In 1991, the Bolivian government passed a second decree that enlarged the park to 637,600 hectares, increasing the protected area threefold its original size and encompassing approximately 3000 communities within the previous buffer zones (Justiniano 1995). Although the upgrade secured additional financing and new staff and
equipment, the administration was incapable of meeting the ambitious conservation objectives that had been established for the park (Moreno et al. 1998). Moreover, residents of the area resented the enlarged boundaries and ignored most rules and regulations, particularly in communities located within the newly designated boundaries (Portugal 1997; Moreno et al. 1998).

In 1994, the Bolivian government implemented a new, participatory project with financing from the Program for Alternative Regional Development (PDAR), which attempted to resolve social conflicts over park boundaries (Moreno et al. 1998). The “Red Line” project was based on census work conducted by the park administration in 1989 and involved clearing a meter-wide path to demarcate private land boundaries. Park administrators, community associations, and volunteers were to concur upon new boundary decisions. However, due to debates and other activities led by local trade unions in the area, boundary disputes remained unsettled and the Red Line project was never completed (Portugal 1997; Moreno et al. 1998). Debates continue regarding exact boundaries and the validity of land titles in the area, many of which are officially documented under Bolivian law but are incomplete or fraudulent due to the existence of multiple titles (Hecht 1997).

Land tenure problems date back to the time the original reserve was founded. In 1975 the Bolivian government promoted a re-colonization program in the area by giving land titles to migrants from the altiplano who settled in lowland areas, many in and around Buena Vista (Justiniano 1995). As a result, several legal and fraudulent claims may exist on the same property. It is estimated that 40% of land titles in Santa Cruz overlap (Hecht 1997).
Colonists currently represent 21% of the population of Buena Vista, and are concentrated immediately outside the town center (Gobierno Municipal de Buena Vista 1997). The presence of colonists within and surrounding the boundaries of Amboró National Park has created serious conflicts between community members and government officials. In an effort to settle political tension, in 1996 the Bolivian government reduced the size of the park's core area. Amboró National Park became the geographically intact part of the park (442,500 hectares), while a new "Integrated Management Area" (195,000 hectares) became a multiple use area or "buffer zone" encompassing most of the border communities (Moreno et al. 1998; Dirección Nacional de Conservación de la Biodiversidad (DNCB) et al. 1997). Land use in the buffer zone remains confusing. Area residents continue to engage in hunting, wood extraction, and other activities that are incompatible with buffer zones as defined by some conservationists who worked in the area (i.e. The Nature Conservancy, Moreno et al. 1998). Approximately 1500 farmers own land within the limits of the managed area, although the majority of this land is not continuously cultivated (Portugal 1997).

Hunting, logging, small and large-scale agriculture, and increasing of migrant populations searching for warmer climates and better agricultural opportunities are the greatest threats to the rich ecosystems of the area (Portugal 1997). Moreover, many migrant farmers from highland areas lack the knowledge, experience, and technological capabilities to farm in such a drastically different environment (Moreno et al. 1998; Portugal 1997). Perhaps the greatest threat to the region is oil and gas exploration and extraction around Amboró Park and throughout the Department of Santa Cruz. These activities result in considerable development and generate revenue for the private sector
but are incompatible with national park mandates (Transredes 2001; DNCB et al. 1997).

In March 2001, the Argentine oil company Andina S.A. petitioned the Bolivian Vice-
Minister of Natural Resources for permission to enter the park and conduct seismic
testing at a number of sites within the core protected area (Cox, pers. com.).

The picturesque town of Buena Vista, capital of the Ichilo Province in the
Department of Santa Cruz, is one of three main entrances to the park, and the primary
access point from the north. Buena Vista is a popular weekend destination for residents
of Santa Cruz and is a growing attraction for scientists and tourists who seek natural,
unspoiled landscapes. Due to the rising interest in Buena Vista, the town is being
developed to provide services for Bolivian citizens and international tourists. Income
generated from tourism infrastructure and associated services will likely increase as
tourism in Buena Vista expands.

The population of the municipality of Buena Vista is 10,784 or roughly 16
inhabitants per square kilometer (Gobierno Municipal de Buena Vista 1997). The
population growth rate of the Municipality is 1.44% per annum, and the illiteracy rate is
24% (Gobierno Municipal de Buena Vista 1997). Infant mortality is 44 per 1000
inhabitants, and life expectancy is 60 years for men, 63 years for women (Gobierno
Municipal de Buena Vista 1997). Health services consist of the "Roque Aguilera" Health
Center in Buena Vista, with hospitals available in the nearby towns of Yapacani and San
Carlos. The most frequently reported illnesses in the area are malaria, gastrointestinal
illnesses, and tuberculosis, as well as less prevalent cases of cholera, leishmaniasis, and
yellow fever (Gobierno Municipal de Buena Vista 1997). Other problems, particularly
for children, include diarrhea, parasites and malnutrition due to food and water
contamination and a diet high in starches but low in protein and vitamins (Gobierno Municipal de Buena Vista 1997).

Traditionally, the municipality of Buena Vista was a subsistence agricultural area that provided the region with rice, soy, wheat, sunflower, corn, yucca, plantains, bananas, coffee, and sugar cane (Gobierno Municipal de Buena Vista 1997; DNBC et al. 1997; Hecht 1997). The highway between Buena Vista and Santa Cruz offers residents of Buena Vista a ready means to market agricultural produce in urban markets. Unfortunately, intensive land use and lack of soil amendments have caused a decline in agricultural productivity in Buena Vista. Furthermore, Buena Vista farmers must now compete with mechanized agricultural operations found in other regions of the Department of Santa Cruz (Hecht 1997; Barber 1995).

Residents of Buena Vista seek to develop new revenue sources. According to Buena Vista's “Participation Plan for the Development of the Municipality of Buena Vista 1997-2001” (Gobierno Municipal de Buena Vista 1997), the economic-productive development goals for the community include: 1) agriculture, a transition away from subsistence to mechanized agriculture; 2) forestry, utilization of renewable wood and non-wood products outside of national park boundaries; 3) hospitality, development of the service industry including promotion of hand-crafted products in the town of Buena Vista; and 4) ecotourism, provision of transportation, guides, and other tourism resources that attempts to involve the communities located within the Integrated Management Area of the park.

In general, visitors to Buena Vista seek a weekend get-away to the countryside, as opposed to directly engaging in tourism activities in the park. Although Buena Vista is a
gateway town to a national park, entrance is poorly regulated and access is difficult even with the help of local guides or tour companies (pers. obs.). In an interview with the Alcaldia of Buena Vista (Gobierno Municipal de Buena Vista 1999), the Mayor identified the lack of basic infrastructure and risk of illness (esp. malaria) as the main obstacles to tourism development in Amboró National Park.

Currently, the Buena Vista Hotel Association oversees the operation of seven hotels and four hostels in the community (Gobierno Municipal de Buena Vista 1999). Several restaurants in the area cater to the growing influx of tourists. In addition, three artisan associations supervise the creation, distribution, and sale of crafts made from Jipijapa (Carludovica palmata), a local palm used in the construction of baskets, hats, and other weavings. The associations include two local community groups and a regional non-profit association that promotes the well-being of women and children. These recent developments have paved the way for the future of tourism as a community-wide priority.

To promote local, community-based income generation from tourism and related services, the town of Buena Vista has relied upon the support of a variety of domestic and international NGOs (Portugal 1997; Moreno et al. 1998). The Association of Productivity, Biosphere, and the Environment (PROBIOMA) works closely with community organizations in the Integrated Management Area of the park to promote appropriate environmental technology, microcredit programs, and sustainable agriculture. The Agrobiological Association of Small Agriculturalists for Nature (AGROPLAN) works to control agricultural plagues with biointensive horticulture. The Center for Peasant Education and Integral Development (CEDICA) works in health, agriculture, and social organization. Caritas is an organization affiliated with the Catholic church and
works on the northern side of the park with rural development projects to promote community well-being and development. The Departmental Development Corporation of Santa Cruz (CORDECRUZ) works immediately outside the Integrated Management Area with small development projects, while CARE is a United States-based NGO that promotes a variety of development projects in the area ranging from nutrition to environmental education. Finally, the Friends of Nature Foundation (FAN), a Bolivian NGO under partnership with The Nature Conservancy, has long been active in conservation efforts and until recently was responsible for managing the park. In 1997 following the development of a management plan written in collaboration with Bolivian and international NGOs (DNCB et al. 1997), the Bolivian government assumed authority over the park and currently manages the area.

In addition to NGOs, the Tropical Agriculture Research Center (CIAT) has been working since 1987 to promote agroforestry systems and other extension programs as alternatives to shifting cultivation. Perhaps most influential to the work of NGOs in the region, the local sindicatos or trade unions meet regularly and have considerable authority to regulate land use and determine land tenure (DNCB et al. 1997). The sindicatos have a great deal of social influence and are thought to be one of the most effective working groups in Bolivia (Portugal 1997). The National Union of Small Cattle Ranchers (UNAPEGA), the Peasant Federation, and the Colonization Federation are examples of community-based groups in operation in Buena Vista.
Project description: Curichi Cuajo Initiative

Settling into the community

Peace Corps volunteers began working in the town of Buena Vista in the early 1990s. The Peace Corps methodology promotes working with local communities by establishing relationships with community, regional, or national counterpart agencies. These arrangements are formally recognized through convenios, written agreements that outline the terms and expectations on the part of both the agency and the volunteer. As stated in the Peace Corps Volunteer Handbook (United States Peace Corps 2000: 42):

"A Volunteer’s project- and the activities that result from it- is the primary framework through which the goals and objectives of the Peace Corps are carried out. Projects are designed by Peace Corps field staff in collaboration with host country officials. These officials are essential partners in project planning and implementation, ensuring that Peace Corps projects reflect a host-country’s broader development priorities. Volunteers’ contribution to this process may involve helping to design new projects, evaluating current activities, or adjusting existing projects."

In recent years, Peace Corps Bolivia has modified site placement of volunteers to emphasize a “clustering method.” Clustering places two or more volunteers in close proximity to one another, in an attempt to promote group interaction and shared involvement at different social levels and representation of different organizations. Peace Corps sub-directors began implementing a group cluster strategy in Bolivia in 1998 with the placement of five volunteers in Santa Cruz and Buena Vista.

Our group represented both Natural Resources and Small Business Development sub-projects. Two volunteers in Buena Vista worked with the Alcaldía, the local Mayor’s office representing the municipality of Buena Vista. A third volunteer worked
with the Amboró National Park office, which operates offices in both Buena Vista and Santa Cruz. A fourth volunteer and I were placed with offices based in Santa Cruz; he was placed with the regional government tourism office of the Prefectura or state government office, while I worked with the Environmental Education Department of the "Noel Kempff Mercado" Museum of Natural History.

We were assigned to agencies that were involved in or were planning tourism and social initiatives in Buena Vista. At this time the Alcaldía was focusing on ecotourism as one of four main "economic products," as outlined in its development plan for 1997-2001 (Gobierno Municipal de Buena Vista 1997). The Prefectura's tourism office was proposing to build an interpretative center in Buena Vista (H. Alcaldía Municipal de Buenavista and Peace Corps Bolivia 1999), and the Museum's education department was implementing teacher-training workshops as part of its development of rural environmental education programs.

As a group, we lived and worked in Buena Vista on a full or part-time basis and worked on other projects in conjunction with the joint venture in tourism. Through this collaborative effort, we came to be known as the "Amboró Initiative" by Peace Corps administration (Amboró Initiative 2000). We spent several months attending government meetings under the direction of the Alcaldía, participating in local community events, working with the student ecology club, and talking to local tourism operators to identify potential tourism projects. Within the community, we targeted local residents with previous or current experience or interest in supporting nature-based tourism and conservation. Since tourism development was a relatively new concept for most community residents, we felt we could be most productive in our initiatives by working

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with community members who had tourism knowledge and had been successful entrepreneurs in previous endeavors (e.g. tourism company owners and operators). We worked with the community “elite” on tourism development and interacted with school groups and other members of the community to generate awareness of and interest in environmental activities, some of which were directly related to our project goals.

After exploring a range of options, Peace Corps volunteers, with the help of tourism officials and representatives of the Alcaldía, identified local protection of a wetland area immediately outside of the town’s center as our main conservation effort. Locally, the area is known as “Curichi Cuajo” (swamp of the long-necked heron in Guarani), “Curichi Aceite” (Spanish for oil swamp due to the visibility of oil on its surface), or more simply “El Curichi.” A *curichi* is characterized by the presence of aquatic plants as well as seasonal flooding for most or all of the year (Hanagarth 1993). The area has been used traditionally for fishing, hunting, plant extraction, and agriculture (Steimbach and Clarke, pers. com.). The area is owned by the Alcaldía and serves as the primary source of water for the town, although previous landowners once used the area to grow sugar cane. Previous land use activities affected the wetland hydrology and resulted in the introduction of exotic aquatic species such as water hyacinth (Reppke, pers. com.).

The Curichi recently became an international tourist attraction for viewing rare and endemic bird species, many of which are protected within the boundaries of nearby Amboró National Park and Integrated Management Area (Clarke and Sagot 1996). Local tour operators and ornithologists (e.g. Robin Clarke with “Flora y Fauna” and Guy Cox with “Hotel Amboró”) use the wetland area and adjacent secondary forest to show
tropical fauna and flora to their guests (Clarke, pers. com.). In fact, the primary inspiration for the Curichi conservation project came from Clarke, who has been a resident of Buena Vista for more than twenty years and co-founded Amboró National Park (Clarke 1999). Clarke advised us on working with the Alcaldia to conserve and develop the area in a manner that could promote tourism while preserving the wetlands and surrounding secondary forest. Another foreign national, German hydrologist Yurgen Reppke, who owns forested property adjacent to the reserve, was instrumental in providing background information about wetland hydrology, soils, and the availability of tax incentives under Bolivian law to promote the conservation of private lands.

We chose the Curichi as our conservation target for several reasons. Due to the area's proximity to the town and its valuable role as a bird habitat and community water source, we felt that the area was worthy of long-term conservation. While living in the community, we observed activities that potentially affected the area, primarily fishing, hunting and wood extraction. We knew that previous agricultural activity had altered the hydrology and plant populations. From a political perspective, we wanted to work in an area free from the controversial Integrated Management Area of Amboró National Park (i.e. stay outside of park boundaries). We also chose to focus on Curichi Cuajo because it was under public ownership by our Bolivian counterpart agency. Since the Alcaldia owned the land and expressed an interest in working to conserve it (Steimbach, pers. com.), we felt that this approach could be less controversial and bureaucratic than other possible projects. Finally, we knew from Robin Clarke that the area was a tourism destination for bird watchers.

In general, we felt that by providing the local government with means to develop
tourism infrastructure, charge access fees, and provide guides and other services, the \textit{Alcaldia} could become more effectively involved in maintaining its land for tourism as well as conservation. At the time, we were unaware of local CBOs or NGOs working on tourism in the area; however, we did work with local organizations in later stages of project development.

\textit{Municipal protection}

We developed and implemented project ideas for Curichi Cuajo with representatives from the \textit{Alcaldia} and other community residents involved in tourism initiatives, specifically local business owners and operators. Although we spoke with other community residents about the new project, we did not formally include them in the planning process. The main drawback to this somewhat “top-down” approach to tourism development was its failure to represent the full range of community issues and views.

After several months of planning and collaboration with Peace Corps volunteers and local tourism representatives, the \textit{Alcaldia} designated the wetland area as the “Curichi Cuajo Municipal Reserve” by municipal decree “Ordenanza Municipal 02/2.000” on February 4, 2000 (H. Alcaldia Municipal de Buenavista 2000). (See Appendix I.) The government document provided legal protection for 326 hectares of wetland area and adjacent pastureland and secondary forest, prohibited most land uses and alteration, and called for several management steps to be executed under the direction of Peace Corps volunteers and the proposed management committee. (See Figure 2.)

The ordinance did not specify how the Curichi should be protected or how management plans would be identified or implemented. However, the \textit{Alcaldia} charged
Peace Corps volunteers with the responsibility of overseeing initial activity until the management committee was fully functioning. In developing the management plan, we provided currently available information and suggested ways for future managers to complete the management process once community members had assumed full responsibility for project management.

Figure 2. Legal document: “Ordenanza Municipal” (Translation)

<table>
<thead>
<tr>
<th>Municipal Ordenanza</th>
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<tbody>
<tr>
<td>Article 1 requires the following management steps:</td>
</tr>
<tr>
<td>• Biological and ecological surveys</td>
</tr>
<tr>
<td>• Topographical study</td>
</tr>
<tr>
<td>• Evaluation of land tenure (i.e. boundary delineation)</td>
</tr>
<tr>
<td>• Management plan</td>
</tr>
</tbody>
</table>

| Article 2 prohibits the following activities: |
| • Deforestation |
| • Hunting |
| • Drainage/hydrological alteration |
| • Urbanization |

Management plan and committee

To insure proper management of the area, we felt it imperative to have a plan that would simply and clearly indicate a course of action for future resource managers. Another Peace Corps volunteer and I drafted an initial natural resource management plan and established general guidelines for a community-directed management board to supervise long-term conservation of the area (See Appendix 1). In the document, we outlined the main objectives of Curichi Cuajo; the principle objective being protection of
the Buena Vista water source; and secondary objectives of protecting bird habitat; providing an ecotourism alternative to Amboró National Park (within and relying upon the community of Buena Vista); and promoting tourism development and environmental education opportunities for local residents and tourists. As part of the management plan, we contracted a local government agency MACUCY, which works on watershed protection in the municipality of Buena Vista, to conduct preliminary mapping of the protected area (See Appendix I). The Bolivian soil conservation agency (PLUS) used the map in revising soils information for the management plan.

Using the management objectives, we worked with our project counterparts to establish a community-based management committee to oversee long-term conservation efforts of the area, under the supervision of the Alcaldia. In the management plan, we suggested the formation of two management committees: an Operations Committee with responsibility for overseeing the daily operations of the Reserve and managing project funds such as income generation through ecotourism, and a Management Committee with legal jurisdiction and responsibility for overseeing management objectives conducted by the Operations Committee. We recommended that the smaller Operations Committee be comprised of a scientist, a local government official, and an area administrator, while the Management Committee be composed of approximately ten volunteers from the community to serve as a general board of directors. Both committees would be comprised of scientists and other professionals from the community who were willing to volunteer their time to advise future management decisions.

In August 2000, involved community officials had proposed the creation of a non-profit foundation to oversee the Curichi and future reserves planned by the Alcaldia.
According to its by-laws, the foundation serves as a unified management committee rather than two committees that divide duties, as originally recommended in the management plan. The Alcaldia granted legal authority to CIPRE in April 2001 and named the following six individuals as initial representatives: government official Airam Moreno; tourism agency owner and operator Marcos Velasco; MACUCY representative Raul Roca; German hydrologist Yurgen Reppke; and Peace Corps representative Susan Fox (Fox and Beane, pers. com.). The committee represented the interests of community members involved in tourism, government, and foreign-based development but did not represent more general sectors within the community (e.g. local trade unions, women’s associations).

Tourism infrastructure

We requested USAID funding under the Small Project Assistance (SPA) grant program to finance construction of low-impact tourism infrastructure (i.e. three watchtowers and two boardwalks) within newly zoned areas of the Curichi Reserve in June 2000, under supervision of the Alcaldia (See Appendix I). At the time the Curichi area was only accessible from the roadside boundary due to thick vegetation and flooding throughout most of the year, but new tourism infrastructure would increase accessibility and improve the overall visitor experience.

We designed the facilities to minimize disturbance to wildlife, using guidelines established in a similar project in Noel Kempff Mercado National Park in northeast Bolivia (Newman et al. 1997). One tower was designed to be adjacent to the Surutú
River boundary (facing west and south for morning viewing), a second would be closer to the main plaza with a camouflaged access path (facing east for afternoon viewing), and a third would be located along the road boundary in conjunction with a small visitor center. We also planned signage for each tower to distinctively mark the boundaries of the Curichi Reserve. By March 2001, the first tower was completed, and Peace Corps volunteers began using the tower as part of a bird identification course for high school students from Buena Vista and surrounding communities (Martinez, pers. com.).

The management committee is to supervise use of the new infrastructure, in conjunction with the main visitor center in the office of the Alcaldía on the town plaza. In this manner, managers and employees or volunteers will be able to promote tourism, offer guides, and collect funds through a visitor fee system. The Curichi Cuajo Municipal Reserve is expected to generate revenue to support other management efforts, such as monitoring and restoration projects. Furthermore, by maintaining and making improvements to the Curichi, project managers may benefit the community through long-term protection of its primary water source.

Environmental education and interpretation

In the management plan, we included a section outlining the use of environmental education and interpretative themes to promote environmental awareness within the community (Dockry y Snyder 2000). According to the management plan for Amboró National Park and Integrated Management Area (DNCB et al. 1997), park managers proposed implementation of an “Environmental Education and Interpretation Subprogram” and recommended the “Construction and Implementation of an
Interpretation Center in Buena Vista and Samaipata, two towns that comprise the main gateways to the northern and southern sides of the park, respectively.

Based on one Peace Corps volunteer's interaction with the Amboró Ecology Club (high school students in Buena Vista), we identified several themes for use in developing an environmental education and interpretive program. We started with general environmental education themes, focusing on water, soil, air, plants, and animals; environmental problems including deforestation, erosion, traditional and sustainable use of agricultural resources; basic sanitation; ecology; and community activities (e.g. Amboró Ecology Club events, school gardens, bird-watching, and trash clean-up projects) (Dockry y Snyder 2000).

We expanded upon general environmental education topics with interpretative themes, designed to offer a more engaging experience and stronger "take-home message" for the visitor (See Appendix I). We used themes designed for an earlier Amboró Initiative project, a proposed interpretation and welcome center, which was not realized due to budgetary constraints (H. Alcaldía Municipal de Buena Vista and Peace Corps Bolivia 1999). The design of interpretative themes using local information about Curichi Cuajo and Amboró National Park was based on theory and techniques taken from the book "Environmental Interpretation: A Practical Guide for People with Big Ideas" by Sam Ham (1992). The book argues that interpretive techniques are applicable in national parks in the United States and Latin America. However, aside from the Amboró Ecology Club who indicated strong support for the themes, we were not certain that the themes were relevant to local residents or visitors (Franqui, pers. com.).

In retrospect, we should have sought a wider representation of community views
in the planning process, for example by conducting a random community survey and/or soliciting the opinions of key informants from different sectors of the community (e.g. agricultural unions, craft associations, etc.). At one point, I suggested that a survey be conducted to enhance our work, but other Peace Corps volunteers involved with the project did not feel that the survey was necessary because we were working under the direction of the Alcaldia according to their objectives.

Peace Corps volunteers were in charge of developing the Curichi project, including the identification of sources of income; one volunteer sought assistance from Transredes, the Bolivian hydrocarbon transport company. Transredes is a semigovernmental agency that claims to provide assistance for social and environmental programs that benefit communities in or near its project sites (Transredes 2001). In August 2000, Transredes formally pledged $10,000 to further social development in the community of Buena Vista (Smith, pers. com.). However, as of April 2001, the money had not yet been received due to the fact that the management committee had not yet been legalized (Beane, pers. com.).

In light of the political debate surrounding park resources and the presence of at least one other oil company, Andina S.A., that is currently seeking permission from the Bolivian Ministry of Natural Resources to enter the park and conduct seismic testing for oil reserves (Cox, pers. com.), the involvement of a corporate benefactor such as Transredes in a local natural resource management project is potentially problematic. Transredes is a Bolivian government oil company that has been the target of numerous protests and at least one violent attack by community residents following a major oil spill near the altiplano city of Oruro (Transredes 2000).
Monitoring

Short and long-term research and monitoring are essential steps for managing the Curichi Cuajo Municipal Reserve. In the legal decree establishing the Reserve, the Alcaldia called for an inventory of the flora and fauna. Aside from basic information on the hydrology of the area and data indicating that at least 450 bird species occur in the area, little is known about the biological diversity of the Curichi (Reppke, pers. com.; Clarke and Sagot 1996). In the management plan, we recommended an extensive species inventory of the Reserve, preferably through small, individualized projects headed by researchers from nearby universities and other institutions (Dockry y Snyder 2000). Most important to maintaining the area as a source of water for the town, scientists studying and monitoring the area should focus on water quality assessment and improvements.
PROJECT ANALYSIS AND CRITIQUE

Project development by outside groups

The town of Buena Vista has witnessed an ongoing cycle of leadership and development by outside government agencies as well as national and international NGOs. Development workers such as Peace Corps volunteers may reside in an area for a short time, provide funding for specific projects that have been identified and developed without adequate knowledge of local conditions or public participation, carry out projects without providing mechanisms to ensure their long-term sustainability, and move on to new projects elsewhere (Little 1994; McLaren 1998; pers. obs.).

When I began working with the “Noel Kempff Mercado” Museum of Natural History’s Environmental Education Department in Santa Cruz, the department was conducting a teacher-training program through a series of workshops held in Santa Cruz and Buena Vista. A short time after I arrived, funding provided by CARE abruptly ended and the project was terminated. Because CARE cut off support for teacher-training programs, the Environmental Education Department could not complete training or monitor and evaluate the impact of the project on teachers. Such short-term presence and limited project assistance by outside organizations is unfortunately a common occurrence in development efforts and can diminish the trust held by community residents when dealing with outside individuals and organizations (Wearing and Neil 1999; McLaren 1998; Narayan 1995).

In Buena Vista, Peace Corps volunteers have worked for several years to promote conservation and development efforts. Volunteers prior to us set the tone for partnerships
with certain members of the community, and the volunteers presently working in Buena Vista (i.e. our replacements) have for the most part continued our work. This progression suggests overall continuity in project development, but I would argue that the Peace Corps' approach of placing volunteers in communities for two-year periods results in a lack of overall project continuity.

Each new arrival to the community involves a period of "down-time" in which a volunteer establishes relations with the community, relationships that vary among individuals. Newcomers may continue working on the same project, but they do not have the experience or knowledge we did when organizing the project and may not have the same perceptions and general understanding of community issues. New volunteers rarely receive adequate training in or exposure to lessons learned from previous projects before being placed in the field. Additional training might help them to avoid repeating the same mistakes. Also, the lack of continuity that occurs when a volunteer is not replaced can slow or impede project results.

Perhaps a more fundamental issue is the sustainability of a project that was designed, implemented, and is dependent on the assistance of Peace Corps or other outside organizations. In a number of cases in Bolivia, I witnessed rapid project deterioration/elimination following the departure of a volunteer, in just the two-year period of time I resided in the country. How many Peace Corps projects have failed as a result of unsuccessful, unsustainable development? The answer is that we do not know, because Peace Corps does not conduct long-term monitoring of project impacts or sustainability.

Even though we designed our project following Peace Corps methodology that
requires long-term monitoring and sustainability under the direction of community representatives, little information regarding monitoring or evaluation exists on previous Peace Corps projects. Furthermore, there is no project-specific information regarding socio-economic and environmental impacts or sustainability. Peace Corps does not address the question of long-term project impacts because the only requirement made by the Peace Corps administration is an immediate monitoring and evaluation report by volunteers who conducted the project. The reality is that Peace Corps receives credit and financing from the United States Department of State for short-term quantitative results (i.e. number of volunteers placed in sites, number of countries receiving volunteers), rather than for results factoring in long-term project impacts or sustainability. Also, if SPA grant money from USAID is not used by the end of each fiscal year, it is “lost” because it cannot be carried over to the next year. Thus, Peace Corps administrators follow procedure, for example insisting that volunteers wait six months before requesting funds and requiring monitoring, evaluation, and sustainability of a project, but in reality encourage project development and solicitation of funds regardless of whether a project is in a Volunteer’s main area of training or is of interest to the community.

Regarding the Curichi Cuajo tourism and conservation development initiative, the project commenced as many development projects do: at the suggestion and under the direction of well-intentioned outsiders (Little 1994). As Peace Corps volunteers we entered the community under a formal working relationship with the government of the municipality and learned about the community from government officials and other community elites. Once we identified tourism development as the primary interest of the Alcaldia, we began pursuing tourism promotion in a manner designed to meet their goals
and expectations. We were aware of other issues such as potential impacts associated with tourism and the importance of community involvement, but we did not prioritize such concerns in developing our initial tourism plan.

In order to promote community-based conservation, we could have worked with projects that already existed or were operated by more representative organizations and citizens, as opposed to only working with government officials or tourism planners. Instead of focusing on basic community needs such as health, education, and agriculture, we focused on the interests of the government (i.e. our counterpart agency) using the skills in which we were trained (i.e. small business development and natural resources management). Essentially, we developed an elite tourism scheme on the basis of information provided by local tourism owners and operators, thereby supporting select members of the community who had personal, economic interests in supporting and furthering our efforts.

In contrast, if we had worked with local *sindicatos* (trade unions) that represent a majority of community residents, we could have potentially developed more broadly beneficial community-based conservation projects. However, even working with *sindicatos* would not have insured that all members of the community were represented. Also, working with *sindicatos* would have meant aligning ourselves with highly visible community organizations who focus on contentious issues such as agricultural subsidies, land tenure, park management, and drug control- areas which we avoided for political reasons. In the face of such political and cultural challenges, external organizations have limited capacity to engage in meaningful development, particularly in politically-charged environments that characterize many communities throughout Latin America (Belsky

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It is erroneous to suggest that we were completely unaware that our tourism and conservation project might not benefit all members of the community. To the contrary, at one point we decided to refer to our tourism project initiatives as “low-impact” and “nature-based” tourism, as opposed to the popular term “ecotourism” (Amboró Initiative 2000). We did so because we knew that the generally accepted definition of ecotourism includes a fundamental social component, in which a significant number of community members are involved in and benefit from tourism development (Smith and Comer 1994; Wearing and Neil 1999). Because we did not expect our project to involve all members of the community, and because we were aware of political tensions surrounding the management of Amboró National Park, we decided to focus on the landscape and provide biological information to the local government (e.g. management plan) rather than focus on social issues and ways to involve local people. As natural resource managers, we failed to consider that the management plan would have clear social as well as biological impacts. Had we been trained as social scientists rather than natural resource managers, we might have taken a different approach to tourism development or perhaps not focused on tourism development at all.

We identified potential benefits that could result from implementing the project, including: restoration of wetland habitat; protection of the community’s water source; government support of wetland conservation; increased revenue for local government; employment of mapmakers and high school students; voluntary involvement in environmental conservation initiatives by community members serving on Curichi management committee; scientific research (e.g. species inventory, hydrological survey.
wetland delineation); increased publicity and support of tourism initiatives by some residents; and promotion of guide training programs and environmental education/awareness in school and volunteer groups.

Involvement of local community

The reality observed in numerous integrated conservation and development projects (ICDP) is that potential participants and beneficiaries are not substantively involved in essential project components, particularly identification, design, implementation, and management (i.e. “real” empowerment does not occur) (Wells and Brandon 1992; Wearing and Neil 1999). In recent years, conservationists have concluded that empowering local people is a critical step to achieving successful community-based conservation (Robinson and Redford 1994; Wearing and Neil 1999). In particular, the literature outlining participatory rural appraisal (PRA) stresses the need for change and ideas to come from within the communities and for communities to assume control over decision-making, research, and other processes (Chambers 1994). Clearly the underlying motive for community residents to become involved in tourism is to receive benefits, financial or otherwise. If developed appropriately, community-based tourism may generate a wide variety of benefits, including increased revenue and employment, improved infrastructure, increased demand for local products and services, improved scientific research, cultural exchange/understanding, and indirect benefits such as proceeds to fund education or health services (Wearing and Neil 1999; Lea 1988).

One of the problems affecting emergent tourism communities in the developing world is the existence of high “leakage” rates, that is the majority of tourism benefits
escape the community and are captured by outside national and international tour agencies and operators (McLaren 1998; Wearing and Neil 1999). Even when tourism benefits are retained within the community, one must evaluate the distribution of benefits and costs among community members. Current research suggests that tourism benefits are not uniformly distributed and tend to reach only those who are most actively involved in tourism (Belsky 1999; Butler 1991). In many rural communities, few residents have the capability to provide adequate resources to meet tourists’ demands (e.g. lodging, food, English-speaking guides), and those who do tend to be better off than other residents.

Another challenge facing communities involved in tourism is the attitudes of tourists. For example, the prevalent opinion that what is new, different and exciting for tourists is quite common and uninteresting to community residents (McLaren 1998; Meijer 1989). Many local people simply have no idea why tourists have come to their community or what they want; they are unfamiliar with tourist preferences and expectations. In Latin America, where the pace of life is slower than in industrial societies and life revolves around the family and community (e.g. shorter workday with a midday “siesta” spent at home), the average citizen is not interested in undertaking the 24 hour/7 day work schedule that the tourism business demands (Baez 1996).

In light of social inequities and cultural differences, one might conclude that the average citizen in a rural community of a lesser-developed nation may not be ready for tourism development. However, allowing tourism development to be dominated by outside developers is not a suitable alternative (Butler 1980). Thus, the challenge is to develop tourism at a rate that is acceptable to and manageable by community members:
local, regional, and national government; tourism owners and operators; service providers; and tourists (Timothy 1998; Wearing and Neil 1999). One case study suggests that while rural tourism initiatives may be sporadic, unorganized and beneficial to only certain individuals or households within the community, those individuals who do benefit from tourism learn from the process and become more entrepreneurial in promoting tourism development (Belsky 1999).

Resident attitudes toward tourism development

According to Hernandez et al. (1996), different social frameworks exist to assess resident attitudes within a community, including the tourism development cycle, attitude changes over time, the segmentation approach, and an analysis of social stratification to determine how attitudes differ within a community. Using these methods, we can surmise that resident attitudes in Buena Vista are complex, uncertain, and vary within the community.

Regarding attitude changes over time, the Buena Vista project timeframe is limited because tourism is in an initial stage of development in comparison to other parts of Bolivia and South America (Meijer 1989). Thus, residents are not likely to have experienced significant negative impacts that might provoke negative reactions (Butler 1980). As time passes and tourism development progresses, positive attitudes toward outside visitors—particularly foreigners and wealthy Bolivians from the capital city—may decline (Doxey 1975). Some residents, such as individuals who have traveled to Santa Cruz, may be aware of urban sprawl and other impacts related to development in general, but might not perceive potential threats related to development in Buena Vista.
In fact, some residents have noticed tourism impacts in the community, including increased trash and crowding in the town square during peak visitor periods (pers. obs.). Some studies suggest that negative attitudes about tourism are most prevalent in the service industry, in which the host-guest relationship is clearly understood as one of servitude and inequity (Smith and Krannich 1998; Akis et al. 1996). Unfortunately, for most community residents, the service industry is the most common and often the only way to become involved in tourism.

From the perspective of social segmentation, it is clear that not all residents will demonstrate the same reaction to tourism development (Hernandez et al. 1996; Akis et al. 1996). Community members who are involved in and benefit from tourism are likely to have more positive attitudes toward tourism than residents who experience displacement, loss of subsistence income through environmental restrictions, and other developmental impacts associated with tourism (Akis et al. 1996; Rupasingha 1999). Those who are young or who speak English have an advantage when dealing with foreigners (Akis et al. 1996). Research also suggests that residents vary considerably in social values, for example in desire for economic development and access to foreign goods and services vs. maintaining traditional ways of life (Hernandez et al. 1996).

Aside from tourism operators and restaurant owners, at present the average resident of Buena Vista has more pressing concerns in their daily lives than tourism. Local residents remain curious and friendly toward outsiders, yet go about their business largely unaffected by the presence of tourists. Community residents who attend to foreign visitors often send them to the “house where the gringos live” (i.e. Peace Corps volunteers). The informal nature of spreading information by word of mouth, the overall
friendliness of community residents encountered in the market or main plaza, and the increase of local restaurants and cafes along the town’s main square—many operated by local Bolivian residents—suggest that the state of tourism in Buena Vista and the overall community perception of tourists is rudimentary yet positive. Several case studies of communities in the early stages of tourism development suggest a similar positive initial attitude toward tourists and tourism development (Hernandez et al. 1996; Akis et al. 1996).

By living in Buena Vista for two years and associating with a wide segment of the community (e.g. school groups, local vendors, and neighbors), Peace Corps volunteers can obtain a broad understanding of community perspectives regarding tourism development. In this manner, we determined that most residents are interested in improving basic needs and services (e.g. medical services, education, mechanized agriculture and transportation), and that only the community elite such as government officials and tourism operators are interested in promoting tourism (Gobierno Municipal de Buena Vista 1997; Franqui and Steimbach, pers. com.). As indicated in the community’s development plan for 1997-2001 (Gobierno Municipal de Buena Vista 1997), community residents who were interested in tourism development expressed a need for restaurants, cabins, and small hotels, rather than local tourist attractions such as the use of birding towers found in the Curichi Cuajo Municipal Reserve.

The main benefactors of tourism improvement projects in Buena Vista will likely be the “high society” residents of Santa Cruz who visit during weekends and holidays. As tourism development increases, prices are likely to increase and local citizens may have a harder time meeting basic needs and sustaining a subsistence lifestyle (McLaren
The average resident of Buena Vista simply cannot afford the prices that tourist restaurant owners charge. Also, many Bolivians who visit the town stay with family members rather than in the hotels, cabins, or hostels owned by and utilized by wealthy Bolivian elites and foreigners. Social inequities in Bolivia may widen over time as the development of oil and related industries in Santa Cruz results in increasing income disparities in Buena Vista and throughout lowland Bolivia. The increased presence of tourists may bring income to a small segment of the community, but will also likely generate unwanted impacts to be borne by all residents. In response to potential negative impacts associated with tourism development, project planners and local government officials would be wise to focus on small, sustainable initiatives that minimize impacts while maximizing the retention of tourist monies and local economic development.

Local government project support

The Alcaldía requested the assistance of Peace Corps volunteers and indicated an interest in promoting tourism initiatives in the community, yet provided few resources aside from the occasional use of a computer and fax machine. The Alcaldía supported our initiatives to protect a small wetland area under municipal federal law, but in essence declared a "paper park"—a preserve without adequate management or protection. They also requested that Peace Corps volunteers provide information critical to natural resource management: boundary delineation, species inventories, and the creation of a local management committee for the reserve (H. Alcaldía Municipal de Buena Vista 2000).

We attempted to collaborate with some community members when possible.
However, the preparation of the management plan and formation of the management committee was completed by Peace Corps volunteers, with little local involvement. We did not involve community members in writing the management plan aside from suggestions and preliminary reviews by certain community members already involved in tourism. Since we as Peace Corps volunteers had expressed an interest in this project and had sought support from the Alcaldia, it is perhaps reasonable to conclude that the government was merely being supportive of our suggestions and recommendations to conserve Curichi Cuajo. Since we proposed the concept of a management committee and suggested that a management plan was necessary to promote successful conservation of the Curichi, it is reasonable to expect that we would draft a preliminary plan and turn it over to the Alcaldia as a working document to be revised by future managers.

The Alcaldia introduced us to important contacts in the community, but did not provide any political context or address potential project constraints associated with Amboró National Park. They identified key community residents with a background in tourism but failed to promote general community involvement in or local benefits from the effort. The Alcaldia was focused on immediate tourism development rather than participatory, sustained development. In short, having non-resident Peace Corps volunteers define, promote and implement the municipality’s tourism plan resulted in a top-down development activity that will likely benefit only a narrow group of community elite, and serve to reinforce the negative attitudes of residents that surfaced during the expansion of Amboró National Park boundaries (Moreno et al. 1998). While finding our way through the political situation was not impossible, by aligning ourselves with the local government and business elite, we precluded broad community participation and
were likely perceived as authoritative outsiders by many residents.

External financing

Peace Corps provided virtually all the funding for the tourism project, in addition to providing the Alcaldía with technical and logistical support. This approach is contrary to prevalent development theory, which suggests that community-based initiatives are more likely to succeed when the community contributes a significant portion of project funds (Wearing and Neil 1999).

To obtain funds under the USAID “Small Project Assistance” grant program (SPA), USAID and Peace Corps administration require that the counterpart organization (in this case the Alcaldía) provide more than 50% of overall funding. We submitted a grant proposal to USAID indicating that the Alcaldía would provide 81% of project financing (an estimated $21,276), but in reality that sum was an estimated valuation of land, transportation, and the work of two map developers, two student assistants, and three workers (H. Alcaldía Municipal de Buena Vista y Cuerpo de Paz Bolivia 2000).

While in-kind contributions are a valid form of project support, it is important to note that the Alcaldía did not have a significant financial investment in the project. Furthermore, social programs to be implemented under the direction of the local government tourism office were designed by Peace Corps volunteers and were underwritten by USAID funding and donations from the Bolivian national hydrocarbon transport company. The Bolivian national government and local tourism owners and operators (including foreign nationals) clearly had an economic interest in the project, yet relied entirely on outside financing by foreign agencies for project development and
implementation. Consequently, one must question whether the community at large will benefit from a project in which they have little financial investment and about which they may not possess a sense of ownership.
CONCLUSION

Project Sustainability

In the Curichi Cuajo conservation project, the local government of Buena Vista, a select group of community residents, and representatives from both national and international NGOs including Peace Corps worked collaboratively to promote an integrated conservation and tourism development initiative. The Curichi Cuajo Municipal Reserve is one of few examples in Bolivia in which a local government body (i.e. the Municipality of Buena Vista) has assumed responsibility for protecting public land at the local level. Although the main focus of the Alcaldía in supporting the project was to promote tourism development in Buena Vista, the local government’s role in protecting the Curichi wetland area served to fulfill broader community interests, if only indirectly. In time, the project might serve as an example of community-based conservation, more specifically of what can be accomplished through cooperation among different agencies and organizations working at multiple levels.

However, the extent to which Curichi Cuajo will achieve these ends is questionable, primarily due to the way in which the project was developed and the extent to which the local community was involved in project design and implementation. Major constraints to project success arise from ongoing political and social conflicts surrounding Amboró National Park, the ongoing cycle of temporary leadership and financial support provided by outside NGOs and special interest groups, and perhaps most significantly, the narrow involvement and support by the local government and business elite, and Transredes, the Bolivian hydrocarbon transport company with a
questionable social and environmental record.

Agriculture, the traditional and primary source of income for most residents of Buena Vista, has declined in recent years. Consequently, interest among the business elite has shifted to tourism as a potential source of income generation. But at what cost? The costs associated with developing tourism infrastructure and managing tourism impacts are often public in nature and are borne by the environment, the local government, and the entire community (Wearing and Neil 1999). As Buena Vista continues to develop tourism, the community needs to address and accept the costs associated with that development in exchange for potential benefits to be received. For example, the Alcaldía may need to control growth through use of a fee system, and conservation managers may need to consider mitigating impacts resulting from development. In doing so, officials will likely confront the highly skewed benefits derived from tourism by different sectors of the community, including negative attitudes and non-compliance on the part of residents who do not benefit from tourism development in their community.

**Recommendations for Peace Corps**

While the presence of an outside organization may contribute to successful community-based conservation, I argue that only by promoting and securing community ownership of a project among a broad segment of residents will a project likely be successful and sustainable over the long term (Little 1994; Robinson and Redford 1994; Wearing and Neil 1999). Outside groups such as the national government and conservation and development NGOs including Peace Corps may provide valuable
assistance to rural communities, but should do so only where that assistance is politically appropriate, and only in a manner and form that promotes empowerment of the community. Peace Corps has a tradition of placing United States citizens in foreign environments and situations with little or no training in participatory development practices. To achieve sustainable development, Peace Corps administrators and placement officers should rethink their strategy of placing volunteers in politically-charged environments without adequate information, training, and resources. Furthermore, Peace Corps’ role in implementing unsustainable, inappropriately funded and inadequately monitored projects needs reform.

If I were to repeat my Peace Corps experience in Buena Vista, I would seek to better and more thoroughly understand the interest, needs, and values of all socio-economic groups within the community before beginning such a large-scale endeavor. Furthermore, I would start much smaller and, if possible, work with existing projects such as coffee harvesting and beekeeping. In my work with the Environmental Education Department of the Noel Kempff Mercado Museum of Natural History, I managed a small grant project that made improvements to an existing museum store. The employees completed the project on their own and were able to expand sales of consignment items to include locally designed and purchased items with greater relevance to the museum’s objectives. This approach enhances prospects for success and long-term project sustainability. Peace Corps projects would be well served by following this example.

The effectiveness of ecotourism and other rural tourism initiatives over the long-term will ultimately depend on who benefits, as well as where, when, and how projects are implemented. While the future of the Curichi Cuajo Municipal Reserve remains to be
seen, the issues affecting the Curichi and the community of Buena Vista are representative of emergent rural tourism settings throughout much of the tropical world. Only with adequate research, guidance, support, and monitoring of environmental and socioeconomic effects, and, most importantly, substantial involvement by broad sectors of the community in project design, development, and management, will community-based conservation initiatives serve broad sectors of society and be sustained over the long-term.
LITERATURE CITED


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APPENDIX I. MANAGEMENT PLAN (TRANSLATION)

UNITED STATES PEACE CORPS
MUNICIPAL GOVERNMENT OF BUENA VISTA

MANAGEMENT PROJECT FOR
THE "CURICHI CUAJO"
MUNICIPAL RESERVE

Written by:

M.Sc. Michael Dockry and M.Sc. Candidate Jennifer Snyder

BUENA VISTA, SANTA CRUZ, BOLIVIA
July 2000
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1. Introduction

The Curichi Cuajo Municipal Reserve is an area located one kilometer from Buena Vista, capital of the Ichilo Province, in the Department of Santa Cruz. The Reserve is located on the road between the town center of Buena Vista and the Surutú River, and serves as a primary groundwater source for the town. For many years, the area has also been an important place for bird-watching. By Municipal Decree “Ordenanza Municipal 02/2.000”, the Municipal Government of Buena Vista has declared local protection of the area. The Alcaldía [Mayor’s Office] is in charge of maintaining and protecting this area through the operation of a management committee. Peace Corps, a government organization of the United States, is also working with specific components of the project. In the long-term, the Reserve will be a completely sustainable project, fully managed and operated by the community of Buena Vista.

2. Justification

2.1 Historical context

Traditionally, the Municipality of Buena Vista has been an agricultural area, which has provided the region with tropical products like rice, corn, yucca, plantains, bananas, coffee, and sugar cane (Municipal Government of Buena Vista 1997). However, due to excessive land use and lack of basic resources to improve soil capacity, the agricultural production of the area has declined. Currently, the residents of Buena Vista are focusing in other areas to support and develop sources of revenue for the town. According to the Participation Plan for the Development of the Municipality of Buena Vista 1997-2001 (Municipal Government of Buena Vista 1997), the economic-productive development of the town is based in four main areas: agriculture, forestry, crafts and services, and ecotourism.

2.2 Amboró Park and tourism in Buena Vista

Amboró National Park was declared a national park in 1984 by the Bolivian Ministry of Sustainable Development and Environment. The town of Buena Vista is one of three main entrances to the Park and the primary entrance from the north. As a result, Buena Vista is being developed to provide services to the tourists who come to the area. Although the Park is immense and access is complicated and difficult, tourists normally visit Buena Vista with the intention of entering the Park. Buena Vista is also popular with the residents of Santa Cruz, who visit the area particularly during weekends or vacations. As a result, development of the town will increase revenue for local residents but also improve the experience of national and foreign visitors. Information and outreach about the Reserve and an increased consciousness about environmental issues will contribute to the protection of Amboró Park and the entire area in the long-term.
2.3 Community initiative for local protection

Local residents have a strong interest in protecting the Curichi Cuajo area because it is an important potable water source and an active nesting and migratory habitat for birds. In February 2000, a group of local residents and organizational officials, including landowners of surrounding properties, presented their interest in protecting Curichi Cuajo to the Alcaldesa [Mayor and President of the Honorable Municipal Counsel] as an important natural resource. The interested community members then drafted information about protecting Curichi Cuajo, which was reviewed and declared law by the Honorable Alcadesa Virgilio Rivero Soruco. While Amboró National Park is protected under national law, the Curichi Cuajo Municipal Reserve is protected only under municipal law, one of few natural reserves in Bolivia that has received protection under the direction of a municipal government.

2.4 Socioeconomic context

According to the Participation Plan for the Development of the Municipality of Buena Vista 1997-2001 (Municipal Government of Buena Vista 1997), the total population of the Municipality is 10,784 inhabitants. This figure is .79% of the total population of the Department of Santa Cruz, 1,359,383 people, according to the National Census of 1992. There are 2157 families representing a figure of 16 inhabitants per square kilometer. The growth rate of the Municipality is 1.44%, and the illiteracy rate is 24%. The infant mortality rate is 44 per 1000 inhabitants, and the life expectancy is 60 years for men, 63 years for women. Health coverage services consist of the "Roque Aguilera" Health Center in Buena Vista as well as hospitals in the surrounding towns of Yapacani and San Carlos, Ichilo Province. The most frequently reported illnesses in the area are malaria, gastrointestinal illnesses, and tuberculosis, as well as the less frequently reported cases of cholera, leishmaniasis, and yellow fever. Other problems, especially for children, include diarrhea, parasites and malnutrition, which is due to food and water contamination as well as a diet that is high in starches (rice, yucca, corn) but that lacks sufficient protein and vitamins.

Buena Vista is located 100 kilometers northwest of the capital of the Department of Santa Cruz, along a major highway that connects the urban centers of Santa Cruz and Cochabamba. The direct connection between Buena Vista and Santa Cruz offers the residents of Buena Vista an opportunity to sell their agricultural produce to a larger market in an urban area. And, as the tourism in Buena Vista is growing, income generation in the town will continue to rise as the presence of tourism infrastructure and services increases.
2.5 Environmental context

The natural resources of Buena Vista are many, from the natural landscapes to the direct and indirect benefits of water sources, fishing, hunting, and plant collection. This includes use of the jipijapa plant (*Carludovica palmata*), a tropical palm that is used for the main craft industry of the town. In the Curichi Cuajo Municipal Reserve, the presence of forests, *curichi* (wetland swamps), and pastureland offers opportunities to see monkeys, birds, and other tropical fauna as well as a wide variety of plant species. Previous landowners used the area to grow sugar cane, which significantly altered the hydrology and vegetation. Although the *curichi* is no longer used for agriculture, residues of fertilizers and other agricultural chemicals remain, and restoration of the area is needed in order to return the vegetative covering to its natural state. Ultimately, the purpose of protecting the Curichi Cuajo Municipal Reserve is to conserve the valuable natural resources of the area for future generations.

3. Project Objective

3.1 The problem

The main environmental problem of Curichi Cuajo Municipal Reserve is the contamination of natural resources and subsequent degradation through lack of proper conservation and management. The town depends on the Reserve as its source of potable groundwater, which is maintained by the natural filtering system of the *curichi*. The future of Curichi Cuajo depends on the presence of biological diversity, which can be utilized indirectly for ecotourism and environmental education. To insure proper management of the area, it is imperative to have a management plan that will clearly indicate the proper course of action to be taken by current and future resource managers.

3.2 Management objectives

The primary objective is to protect the primary water source for Buena Vista through soil erosion control and prevention of soil sedimentation and contamination. The secondary objectives are to protect the environment for endemic and migratory birds, to provide an ecotourism opportunity to visitors in Buena Vista, and to offer environmental education to the citizens of Buena Vista as well as its visitors. The project will be managed in a sustainable manner to protect the ecological integrity of the Reserve.
Table 1. MANAGEMENT OBJECTIVES

PRINCIPAL OBJECTIVE:
• Protection of the Water Source of Buena Vista

SECONDARY OBJECTIVES:
• Protect Bird Habitat
• Ecotourism Alternative to Amboró Park
• Environmental Education for the Town and Tourists

4. Characteristics of the Curichi Cuajo Reserve

4.1 Location and expanse

The Reserve is an irregular rectangle located among three points: 17° 27', 17° 28', and 63° 39'. The boundaries include two roads that begin in the town center of Buena Vista and connect at two points along the Surutú River.

4.2 General data

The curichi area of the Reserve can be found along the old “alluvial terrace” of the Surutú River, which ends in the hills of Buena Vista. For this reason, the curichi has a topography that is almost flat (0-5% slope), while the northern border contains a landscape of rolling hills with a slope ranging from 5-25%. The average temperature of the area is 23.9 degrees centigrade, with an average maximum temperature of 27.6 and minimum temperature of 18.4 degrees. Average temperatures were based on data taken over 3-5 years near the Macuñucú and Ichilo Rivers near the community of El Cairo, Buena Vista (Clarke and Mogrovejo 1990). Average precipitation in the area is 2347.2 mm, with data collected in El Cairo over 6 years (MACUCY Station, El Cairo).

Potable water for the town of Buena Vista comes primarily from the surrounding watershed that feeds the Reserve. The curichi watershed begins in the southeast with the Calzón-Palacito ravine (Clarke and Mogrovejo 1990), and drains toward the Surutú River and flows downstream to the Mamoré River, which eventually feeds into the great Amazon Basin.

The Reserve is a transitory zone between two habitats, tropical moist forest and sub-tropical moist forest, as defined by Holdridge and delineated by Clarke and Mogrovejo (1990). The sub-tropical moist forest is considerably drier due to better drainage. The Reserve consists of curichi wetland habitat that contains water during at least part of the year.
The flora of the tropical moist forest part of the Reserve is characterized by the presence of wood species of trees including mahogany (*Swietenia macrophylla*), Indian almond (*Terminalia* sp.), *bibosi* (*Ficus pertusa*), *ochoo* (*Hura crepitans*), *motacú* (*Scheelea princeps*) and other trees. Where the forest has not been altered, many species of orchids, ferns, and bromeliads (*Tillandsia* sp.) can be found (Clarke and Sagot 1996). The flora of the sub-tropical moist forest is characterized by the presence of *nogal* (*Juglans boliviana*), *aliso* (*Myrsine* sp.), and other palms (*Iriartea* sp., *Euterpe* sp. and *Bactris* sp.) and *tacuara* (*Guadua* sp.) (Clarke and Sagot 1996). The flora of the driest parts of the *curichi* habitat include *patujú* (*Heliconia* sp.), *tacuara* (*Guadua* sp.), *palo santo* (*Triplaris americana*), *aliso* (*Myrsine* sp.) and other palms. There is also a general predominance of water-hyacinth and other aquatic plants (*Eichornia* sp.) (Clarke and Sagot 1996).

The fauna found in the Reserve is diverse, many of which are rare species of birds. There are two species at high risk of extinction, the Hoatzin (*Opisthocomus hoazin*) and the great-billed seed finch (*Oryzoborus maximilianii*), which have a worldwide population of 1000 or fewer individuals. There is also the presence of the rare southern screamer (*Chauna torquata*). In general, there are more than 450 bird species that utilize the *curichi* habitat during at least part of the year (Clarke and Sagot 1996). Mammals present include painted *jochi* or agouti (*Agouti paca*), calucha *jochi* (*Dasiporcta pumetata*), *melero* (*Eira barbara*), squirrel (*Sciurus spadiceus*), capibara (*Hydrochaeris hydrochaeris*), and other species including osco, titi, and nocturnal monkeys. Due to the lack of a complete species inventory of the Reserve, little species information exists for the fish, reptiles, and insects found in Curichi Cuajo. Ongoing research will be conducted in the future to supplement currently existing knowledge.

5. Environmental Management Program

5.1 Identification and hierarchy of landscapes

The *Strict Conservation Zone* corresponds to areas where the only human actions to be conducted will include maintenance and natural restoration. The objectives of this zone are biodiversity conservation; conservation, maintenance, and rehabilitation of birding habitat; maintenance of ecological processes; and watershed protection.

The *Strict Forest Conservation Zone* includes sloping or hilly areas above the water level that has forest and tree coverage. The vegetation will be protected, although the native trees should be planted to improve forest quality.

The *Strict Open Water Conservation Sub-Zone* includes areas with open water during the entire year. Currently, the open water area is covered with a growth of exotic plants, which must be removed to allow re-growth of plants native to the area, such as the great lily (*Victoria regia*).
The **Strict Conservation Lowlands with Vegetation Sub-Zone** includes vegetative areas with occasional inundations of open water during part of the year. The vegetation will be protected, although exotic plants should be removed to allow native plant growth.

The **Intensive Use Zone** includes private lands where human use has altered the landscape and vegetative covering, primarily with the presence of agricultural fields or residential areas. The objective of this zone is to use resources in a sustainable manner, taking into account the ecological limits of ecosystems in promoting maintenance of essential ecological processes in order to conserve the original biodiversity of the area.

The **Ecotourist and Educative Use Zone** includes the public areas where visitors and investigators will have direct access the Reserve. The objective of this zone is to provide opportunities to see and study the ecosystems of the Reserve in a sustainable manner with minimal impact. The zone will be used for environmental education and tourism, and the infrastructure will be constructed and maintained in a manner that will cause minimal damage to the flora and fauna of the Reserve.

### 5.2 Land Management in identified areas

**Private Lands.** - The private lands that are adjacent to the Reserve should be in private possession for no more than 100 years. The owner should inform the Forestry Superintendent of lands that are located adjacent the Reserve, which will be included in a revised management plan. In accordance with federal forestry law, private lands found adjacent to an ecological reserve are exempt from taxes if they are kept in a state of non-use and are maintained in accordance with federal laws protecting water, wildlife, and genetic resources. Private lands included as part of the Reserve will be designated under a specific zone indicating previous use. According to federal law, the Superintendent will be in charge of identifying law violators and collecting appropriate fines.

**Municipal Lands.** - The Municipal lands inside the Reserve will be assigned to a specific zone indicating previous use that will be deemed appropriate for the area. According to forestry law, the Superintendent will be in charge of identifying law violators and collecting appropriate fines.

**Lands surrounding the Reserve.** - Federal forestry law dictates that there should be a buffer zone or boundary of 50 meters surrounding the protected area. Surrounding land use that affects the Reserve will be evaluated according to forestry law.

**Other lands.** - With respect to the process for authorization of activities inside the Curichi Cuajo Municipal Reserve, any given activity that is not written
into the management plan will be brought before the Operations Committee for review.

5.3 Research and monitoring

Short and long-term research and monitoring are essential for managing the Reserve in a sustainable manner. The Management Committee will supervise the scientists who study and monitor natural areas found in the Curichi Cuajo Reserve. In addition to researching specific themes such as relations among plants, animals, and ecosystems of the Reserve, the investigators will conduct an ongoing species inventory of the flora and fauna found in the Reserve, preferably through small, individual projects. Currently, there is a great deal of existing information about the birds as well as the hydrology of the Reserve; therefore, the studies will focus in other areas that lack information.

Monitoring will also assess the impact of visitor use and the effects of surrounding landowners, both of which are essential to conservation in the long-term. Conducting an environmental impact assessment for the project is also important to avoid natural resource degradation and social conflict that accompanies development, as well as to reduce project costs. Possible environmental impacts include erosion, trail compaction, water contamination, presence of solid waste through increased visitor use, and disturbance of birds and other species in the area. Local residents may also be adversely affected by the increase in tourism infrastructure and other development of the area.

In order to determine maximum use for visitors as well as researchers that enter the area, it will be necessary to conduct a carrying capacity study for the multiple use areas of the Reserve. Depending on the results, the Management Committee will adjust the maximum number of visitors permitted per day, and modify environmental and social programs that promote the area to outsiders.

5.4 Soil use in the area

Using maps created by MACUCY, the federal soil conservation agency (PLUS) will be defining soil information for the Curichi Cuajo Municipal Reserve and will adjust the current management plan accordingly.

6. Social programs

6.1 Ecotourism infrastructure

In order to improve the experience of the visitor, the Management Committee in conjunction with the United States Peace Corps and USAID will supervise the construction of nature-based infrastructure to promote tourism in designated areas of the Reserve. Project managers have requested funding from USAID for the construction of three observation towers to enhance daily
viewing of the area. One tower will be located adjacent to the Surutú River facing toward the west and south (for morning viewing), another will have a camouflaged access path and will face toward the east from the side of the town's main plaza (for afternoon viewing), and a third will be located in the middle of the Reserve in conjunction with a visitor center that provides restrooms and other visitor facilities. In addition, there will be signage for each observation tower as well as the visitor center that will roughly indicate the boundary limits of the Reserve. The Management Committee will have jurisdiction over the use and maintenance of these structures, which will be used to offer access to visitors as well as scientists and researchers.

6.2 Education and environmental interpretation

A main component of promoting the Reserve is the education and interpretation of the natural ecosystems of the area, which promote the Reserve's role in preserving nature in the long-term and complete socioeconomic objectives as prescribed by the management plan. Environmental education will consist of more general themes, while interpretation will provide more in-depth knowledge by way of a direct experience, particularly with a guide who knows the history and general characteristics of the area. There will be a visitor center in the middle of the Reserve and potentially an additional office in the main plaza, which will promote a general introduction to the location and characteristics of the Reserve as well as offering tour guides, other activities, and general educational materials. The Management Committee and Peace Corps volunteers will work with the Amboró Ecology Club (GEA) to create materials and plan events.

For environmental education, the themes identified as most important for the area are:
1. Components of nature: water, soil, air, plants, and animals.
2. Environmental problems: deforestation, erosion, traditional and sustainable use of agricultural resources, trash, and basic sanitation.
3. Ecology and related activities of the Amboró Ecology Club, run by the student youth of Buena Vista: school gardens, bird-watching, trash clean-ups, etc.

In addition, the interpretative program will focus on specific issues related to the region of Buena Vista and Amboró Park, with a primary goal of give the visitor a greater understanding and appreciation of the natural qualities of the area. With a visit to Curichi Cuajo (especially with an experienced guide), the visitors will learn a great deal about the ecology of the area. The principal biological and anthropological themes of the area include birds, butterflies, animals, area ecosystems, watersheds, the legend of Amboró Mountain (which is located in the Park but can be viewed from the Reserve), fishing, hunting, slash and burn (traditional agriculture), wood extraction, and promotion of local traditions including the production and sale of artesania [locally-made crafts].
7. Management

The management objective of Curichi Cuajo is to strengthen the protection and conservation of the natural elements of the Reserve, support scientific research projects, promote environmental education and interpretation activities, and provide a controlled method of introducing tourism and recreation. Toward this end, project managers have promoted the formation of two management committees: the Operations Committee (daily activities) and the Management Committee (overseers of the Reserve). Peace Corps volunteers and community members have organized the selection of these two committees and will oversee initial management of the project until the committees are fully functioning.

7.1 Operations Committee

The Operations Committee has the responsibility of executing the management plan, overseeing the daily operations of the Reserve, and managing project funds including income generation through ecotourism and research. The Operations Committee will be comprised of a scientist, a representative of the local government, and an area administrator.

The responsibilities of the Operations Committee are:

Scientist:
- Execute activities as proposed in the management plan.
- Promote technical meetings with the personnel of the Reserve and the Management Committee.
- Maintain a data center with respect to the flora and fauna of Curichi Cuajo.

Administrator and Government Representative:
- Collaborate with Peace Corps volunteers and the Management Committee in the construction of infrastructure.
- Promote the capacity and efficiency of personnel, installations, equipment, and economic resources of the Reserve.
- Insure adequate use and verification of the budget, real estate, and other economic resources assigned to the Reserve.
- Supervise accounting and administrative activities essential to meeting the objectives of the management plan, in accordance with related federal laws governing the Reserve.
- Assume responsibility for the proper functioning and maintenance of equipment and infrastructure, providing for the necessary funds to complete all foreseen projects and objectives of the management plan.
- Revise the management plan and incorporate new technical information and experiences as necessary.

7.2 Management Committee

The Management Committee is responsible for overseeing the proper functioning of Curichi Cuajo including completion of management plan objectives.
This Committee has legal jurisdiction over the Reserve and takes responsibility for collaboration with and support of the Operations Committee. The Management Committee will be composed of 10 people.

The responsibilities of the Management Committee are:

- Support the Operations Committee in the execution of activities as proposed in the management plan.
- Govern behavior in accordance with the regulations established by the management plan and other planning documents.
- Integrate political and social activities including cooperation with regional, national, and international institutions.
- Promote cooperative agreements with national and international institutions to insure good use and management of the Reserve.
- Identify and obtain financial resources that will secure long-term, sustainable operation of the Reserve, and proper use of resources (equipment, installations, real estate, services, etc.)
- Promote coordination with the administrator of the Operations Committee, with a minimum of one meeting every three months for the first year of operation.

8. Conclusions

The Curichi Cuajo Municipal Reserve is one of the first examples in Bolivia in which a Municipality or local government has assumed responsibility for protecting public lands in support of its residents. The project is an example of what can be accomplished with the cooperation of different agencies working at multiple levels, in this case the local government of Buena Vista, town residents, and both national and international non-governmental institutions. Primarily, the Curichi Cuajo Municipal Reserve will provide protection for the main potable water source for the town of Buena Vista, as well as protecting a valuable bird habitat that supports several species in danger of extinction. Additionally, Buena Vista as a rapidly growing tourism center will gain an additional source of interest for its visitors. Using the tourism infrastructure of the Reserve in conjunction with well-developed education and other social programs, the students and other residents of Buena Vista will benefit tremendously from this project.

The implementation of a management plan will help manage and protect the Reserve, although this provision alone is not sufficient for long-term sustainability. The residents of Buena Vista will be informed and involved in all aspects of the project, from running management committees to keeping the town free of trash to respecting the interests of the visitors who come to visit the Reserve. Communicating the role and importance of the Reserve is essential to realizing successful conservation of the Curichi Cuajo Municipal Reserve, Amboró Park, and the entire natural area.
In five years, visitors will come from all parts of Bolivia and the world to visit the Curichi Cuajo Municipal Reserve. Through agreements with universities in Bolivia, the United States, and Europe, scientists will be studying various aspects of the ecosystems of the Reserve and assimilating that information into the management plan. Municipal governments in other areas of Bolivia will be implementing similar projects, using the experience of the local government of Buena Vista as an example. Local economy will improve via revenues generated by visits to the Reserve, and the youth of Buena Vista will be converting the town to a more ecological community. Using the data collected through soil surveys, biological monitoring, and on-going species inventories, the Operative Committee will revise the management plan to promote the sustainable conservation of the Reserve for future generations.
Glossary

PROTECTED AREAS- Land declarations that involve protection under law and are subjected to restrictions in use and management by official federal organizations.

CARRYING CAPACITY- The limit of an environment to support use by people and other organisms without degradation that will reduce the limit in the future.

CONSERVATION- Rational use of natural resources that will improve or maintain the quality of life for a given species or population, including humans. Conservation ensures the continued existence of an environment through sustainable use of natural resources.

BIOLOGICAL DIVERSITY- The existence of all species of plants, animals, microorganisms, and ecosystems including the number as well as the frequency or distribution of individuals in a given area.

ECOLOGY- The study of organisms or groups of organisms and their relations with the environment, as well as the science of these relations that link organisms with their environment.

ECOSYSTEM- A complex of organisms and their interaction among each other as well as their environment.

NATIVE SPECIES- Organisms that have evolved in and are limited to presence in a particular area.

EXOTIC SPECIES- Organisms that have evolved in a particular area but are currently located outside the original location.

HABITAT- The environment in which an organism lives and reproduces, upon which is relied for survival of the individual or population.

MONITORING- Collection and processing of information to promote knowledge of information and related future decision-making or maintenance in the future.

MUNICIPAL ORDENANZA- Legal document that serves as a local or municipal law in Bolivia.

MANAGEMENT PLAN- A guide to insure proper use of a natural area, which contains concepts and descriptions of legal and scientific information about the area; the plan should be revised and modified on a regular basis (maximum term of 5 years) to improve operations and incorporate new information.
RESERVE- A territorial delimitation that contains one or more natural resources, which are to be protected from degradation or other human activities.

MUNICIPAL RESERVE- An area under local control by way of a local government entity (or directive such as a management committee) that oversees use and management of an area.
Bibliography


Municipal Ordenanza

GOBIERNO MUNICIPAL
BUENA VISTA
PROV. ICHILO
SANTA CRUZ - BOLIVIA

Honorables Concejo Municipal, en uso de las atribuciones, que le confiere la Ley, en sesión de fecha cuatro de febrero del año dos mil, dictó la presente

ORDENANZA

ARTICULO 1.- Se declara al toda el área que ocupa el curichi "El aceite" de Buena vista, como Reserva de Inmovilización Natural, hasta que se tengan los siguientes estudios del área:
1) Estudio biológico (flora y fauna) y ecológico.
2) Estudio topográfico.
3) Estudio de tenencia legal de la tierra.
4) Plan de manejo

ARTICULO 2.- Se prohíbe cualquier alteración de las características naturales de el curichi "El Aceite", por medio de actividades tales como: Deforestación, incendio, canalización, caza, urbanización, etc., hasta que se defina y apruebe el Plan de Manejo del área.

Se firma en la Sala de Sesiones del Honorable Concejo Municipal de la ciudad de Buena vista, a los cuatro días del mes de febrero del año dos mil.

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RESERVA MUNICIPAL CURICHI "CUAJO"

PLANO DE UBICACION

UBICACION
MUNICIPIO: BUENA VISTA
SECCION: PISCA
PROVINCIA: CHUQUIABAMBA
DEPARTAMENTO: PUNO

SUPERFICIE: 367 ha
ESCALA 1: 40,000

COORDENADAS DE LA RESERVA

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OBSERVACIONES

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Watchtower Design
Interpretation Program for Proposed Interpretation/Welcome Center
Buena Vista - July 1999

I. Introduction

As part of the activities to complete construction and implementation of a proposed Natural Interpretation and Welcome Center of Buena Vista, we have designed an interpretative program that will focus on different areas and activities that can be attributed to the entire region.

II. General Objective (Mission Statement)

To cause the visitor to have a greater appreciation and awe about nature through the understanding of the features of Buena Vista and the northern side of Amboró National Park and Integrated Management Area.

III. Agenda

The themes to be interpreted are based on the two most influential aspects of any national park: biological and anthropological. Given the close interrelation that these components have concerning cultural as well as natural attributes, all chosen themes will be presented from both points of view. From this manner, we will emphasize the roles that each theme plays. For example, nature has an important role in the creation of cultural artifacts, and that culture in turn influences natural values. In short, the human point of view is intricately related to the conservation of nature.

We have chosen ten topics to interpret the themes and objectives that we would like the audience to understand and internalize. These biological and anthropological themes have been outlined in an attempt to maintain an equal balance between both aspects, a balance that needs to be maintained in order to promote a better understanding and appreciation of the natural world.

1. Birds

The first introduction will be about the birds of Amboró National Park, which are an international attraction and are distinct from many birds found in other national parks of Bolivia. Specifically, we want to present the variety of birds as an example of the wide biodiversity which the park harbors. In addition, we want to focus on the birds that are the most rare, unique, and well-known and that can been seen when visiting the park and the town of Buena Vista.

Three main themes:
• the incredible biodiversity of the park in the question of birds, significant to both humans and conservation
• the importance that the birds of Amboró have on a worldwide as well as local level, and why they should be protected (emphasis on the species of major value inside the park)
• the ability to recognize the most common birds of Buena Vista by identifying their characteristics

Potential interpretive techniques:
Exhibits:
• Bird Call Panel with photos- press button to hear call
• Bird Calls CD playing in background or for sale in the Store, as well as information about what is currently playing (should be at low level or in a separate area to avoid distraction)
• Display panel- profile of the mascot of the park
• Neotropical migration video, computer program, or light up board displaying winter/summer locations
Information:
- Display panel: List of families/species found in the park
- Map of particularly common or very attractive birds, showing localities as available
- Information and samples of feathers used in necklaces (economic resources of birds beyond hunting and food)

2. Butterflies

The second presentation will be about the butterflies of Amboró as another public attraction of national significance. Specifically, we want to present the principal characteristics that separate these butterflies from other butterflies of South America, including their natural defenses and habitat adaptations.

Three main themes:
- the relevance of butterflies in the natural ecosystem
- the theme of adaptation as an evolutionary process
- an understanding of the ecological and commercial importance that butterflies have regarding development of tourism in the park and adjacent communities

Potential interpretive techniques:
Exhibits:
- Specimens, i.e. big variety of butterflies- convey tremendous abundance and diversity found in the park and in Bolivia/ South America
- Profile on complementary cluster project, i.e. "the butterfly farm," to demonstrate an example of commercial use and related benefits to local communities
- Panel: life cycle of a butterfly (including samples)

Information:
- Panel or trail guide with list of families/species found in the park

Northern Side Ecosystems

The third topic will focus on the ecosystems of the northern region of the Amboró National Park and Integrated Management Area, which are unique on a continental level and the primary reason why this area has been converted to a valued, protected area. Specifically, we want to explain morphological and vegetative characteristics to convey the interrelation of natural systems as well as the specifics of the ecological region. Also, we want to explain the concept of evolutionary succession and nature as an example of organized and constant change.

Three main themes:
- the importance and fragility of the ecosystems of the park and the reasons why they have been selected for protection
- the distinct biological and geological characteristics
- the interrelation of specific components, including human interaction

Potential interpretive techniques:
Exhibits:
- Exhibit case or panel on geological features (e.g. rock collections, soil types) and their effect on biological diversity of the park
- Exhibit case or panel of a sample ecosystem with specimens (could profile several)
- Artistic map profiling human communities (humans as part of the ecosystem) within the management area (rationale for multiple use zone)
- Panel conveying the magnitude of diversity: excerpt from article describing Amboró as "one of the most ecologically diverse areas in the world"
Information:
• Map/Panel: Identification of ecosystems in the area by name and description of characteristics
• General information about the definitions or classification methods of ecosystems

Watersheds

The fourth topic will concentrate on the hydrology of the rivers that exist in the northern region of the park, the Surutú, Colorado, and Yapacaní Rivers. Specifically, we will present the geographic limitations and biological characteristics exemplified by the hydrologic cycle, including the cause and effect relationship between water availability and human activities. We will also outline the link between watershed management and the sustainability of human populations that are dependent on the rivers in the area.

Three main themes:
• the importance of good management and who is responsible for it
• how watersheds are currently being managed, including problems that have been presented
• examples of cause and effect of actions up-river and down-river

Potential interpretive techniques:
Exhibits:
• Model and/or traveling exhibit of watersheds
• Hydrology panel showing the water cycle in general, including specific relation to water flow of the park
• Profile of water-related attractions, including riverfront “beach” and waterfalls of the park
• Panel outlining water use and conservation both industry and recreation/tourism
• Panel describing water pollution: upstream/downstream effects

Information:
• Maps of Surutú, Colorado, and Yapacaní rivers
• Maps and descriptions of the Bolivian part of the Amazon Basin

Legends of Amboró Mountain

The final biological theme of the park will be the interpretation of the profile view of Amboró Mountain, for which the park was named.

Two main themes:
• the history and legends which make the mountain attractive and give the park its name
• the symbolism that the mountain has as an immortal presence in the park and in the lives of those who visit the park

Potential interpretive techniques:
Exhibits:
• Video or narrative panel explaining the “Legend of the Sleeping Giant”
• Window or narrative sign depicting the view of the park from the Center

Information:
• Historical information/timeline on the early explorers of the park, including former residents of Buena Vista (i.e. the priest)

Hunting and Fishing

The first anthropological topic will demonstrate how animals are endangered by hunting and fishing activities in and around the park, perhaps the most significant threat found in the management area. Specifically, we will use between five and ten species as examples to demonstrate how species are being identified and how they are being threatened in the park and
surrounding areas. We will also suggest alternatives to current hunting and fishing practices that can reduce the current population pressure on these species, including actions that the average visitor or community member can take to lessen species predation.

**Two main themes:**
- ecological and economic degeneration caused by indiscriminate hunting
- what can be done to decrease commercial hunting in the park, including increased awareness of the laws and potential alternatives to this type of activity

**Potential interpretive techniques:**

**Exhibits:**
- Video or panel describing hunting and fishing activity of the park, both sustainable/legal in the management zone and illegal or unsustainable, destructive methods
- Panel(s) to profile endangered species of the park
- Sample specimens to show value and beauty of fish and animals (charismatic megafauna)

**Information:**
- Panels outlining hunting and fishing laws

**Traditional Agriculture**

As one of the principal human actions in the management area of the park, the topic of “chaqueo” (shifting cultivation or “slash and burn”) will be explained as a potentially sustainable agricultural activity. Specifically, we would like to explain the process as well as the reasons for its current unsustainability. We intend to convey the current situation the campesinos face, and using this point of view, explain the alternatives that exist to insure the long-term sustainability of this practice.

**Three main themes:**
- reasons why farmers utilize this traditional method of agriculture
- economic alternatives to this method
- cultural influences that help explain why these alternatives have not been implemented

**Potential interpretive techniques:**

**Exhibits:**
- Panel with photos explaining the process of the traditional, sustainable chaqueo agriculture, including an explanation of rotation and fallow period cycles
- Video showing the advances of modern agriculture (e.g. sugar cane) and the resulting threat to the traditional, indigenous way of life
- Explanation of food from traditional crops as served in the restaurant (e.g. panels, menu, adobe ovens)
- Model of traditional agriculture method
- Demonstration garden outside the center

**Information:**
- Panels listing traditional crops of the Integrated Management Area

**Wood Extraction**

This topic will focus on the wood species that can be found in the management area and the history of extraction without adequate management. Specifically, we will present the three species of major international demand as well as the characteristics that give these species their importance. We will also explain within the national legal context, the methodology of adequate forestry management and potential economic benefits compared to non-managed extraction.

**Three main themes:**
- wood is a renewable natural resource when managed properly
• the theoretical vs. actual role of current forestry laws that govern national parks in Bolivia
• what can be done by the average person to improve the situation, e.g. supporting the purchase of value-added products

Potential interpretive techniques:
Exhibits:
• Panel with photos outlining historical use compared to current rates of deforestation in Bolivia/Amboró (how much wood has been taken and how much is left)
• Panel explaining the process utilized to extract, process, and sell wood in Bolivia and abroad
• Specimen/sample table with cross sections of interesting or unusual wood, logs, and/or fossils
• Touch table with different woods: discussion on comparison of weights, textures, and appearance

Information:
• List of tree species/photos in Amboró extracted for commercial use
• Display panel to describe sustainable forestry initiatives, laws, and current management attempts by the national park service of Bolivia

Artesanía

This topic will explain one of the most important cultural traditions of the area as not only a current way of life but also as a viable economic alternative that supports the conservation goals of the park. Specifically, we will discuss the types of craft products that are made locally, including artwork, music, furniture, tools, and local cuisine.

Three main themes:
• the production process from the forest to the store for local products
• an introduction to the existence of different groups of artists and the effect that competition has on both local economy and society
• the importance of supporting this type of entrepreneurial activity

Potential interpretive techniques:
Exhibits:
• Panel outlining history and culture of the region, linked to food, music, furniture, and other items, i.e. local crafts
• Photos profiling local workers/communities and the processes used to extract materials and create products
• Workshops demonstrating local artists at work
• Vending of items in the store with information on original source and production of items
• Vending of food items in the restaurant (also linked to local agriculture)
• Panel with full length photo of forest outlining non-timber forest resources as a sustainable alternative to deforestation (a national profile could include Brazil nuts and rubber extraction in the Amazon Basin)

Information:
• Pamphlet for donations or specific program to generate funds through the sale of items, i.e. percentage of items sold returned to communities to support projects

Ecotourism

The last topic will explain ecotourism as a recreational endeavor but more importantly as an economic alternative for promoting long-term conservation of natural resources. Specifically, we will present this category of tourism as a method of protecting and conserving the environment by generating direct work opportunities, increased revenue, and other benefits for the communities in the area. We will define the characteristics of responsible ecotourism and illustrate local examples of these projects.
Three main themes:
• the role of visitors in the conservation of protected areas
• what types of projects classify as ecotourism and where to find them in the area
• steps the visitor can take while visiting to ensure that ecotourism goals are met

Potential interpretive techniques:
Exhibits:
• Panels profiling the existence of local communities as an integral part of the park (in relation to human ecology/ecosystems)
• Panel with photos describing community participation and the effort of park managers to include locals in the planning process
• Map outlining the “big-picture” significance of Amboró related to tourism in national parks of Bolivia
• Panel outlining the role of the visitor, including steps that can be taken to support ecotourism initiatives in Buena Vista and the park
• Video and maps demonstrating tourism in the area, i.e. how to get to the park and enjoy its features

Information:
• Panel discussing the definition of ecotourism worldwide- what is ecotourism vs. what is not