Eco-Leadership in Paraguay: Approaches to Building Partnerships in Conservation

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Introduction

The heart of eco-leadership includes building partnerships and tapping into local support for programs and conservation. There are a number of different ways that this can be accomplished and the type of partnerships forged will often depend on a number of factors. To successfully build partnerships, one must cater programs and approaches to local needs, concerns, limitations, and possibilities. It is impossible for ecological conservationists to operate in a vacuum; to preserve an area, there must be buy-in at the local level. This means considering the needs, desires, and culture of the local community. Although sometimes environmental groups attempt to operate from a legislative standpoint, this is only the beginning; without communal cooperation, the likelihood of a successful program decreases. This paper looks at several both instances of partnerships and circumstances surrounding interactions, land management, and conservation techniques employed both in Paraguay and in other countries with similar issues.

Conservation programs worldwide have shown success using a variety of tactics when building partnerships to promote conservation. This paper will look at several different real-world partnership scenarios. Because circumstances and communities vary so widely, however, no one method may be appropriate for every situation. Determining the success of a partnership can be difficult, because of a number of factors. For example, there is the fact that every situation and set of circumstances differs somewhat; there is no one-size-fits-all solution. The very definition of success can depend on the person being asked, as explored by Toupal and Johnson (1998); there can be both qualitative and quantitative factors in assessing the final determination. Toupal and Johnson also found that the value of natural resources could not be uniformly decided, but could vary immensely (1998). The most successful conservation programs tend have several themes in common, however. They address underlying cultural and societal issues: for example, acknowledging the existence and influence of economic drivers in habitat destruction and resource exploitation. Communication and collaboration are highly values when pursuing a successful conservation partnership as well (Vermuelen & Sheil, 2007). While education can be the foundation for turning the tide towards a conservation-oriented community, the economic realities of communities must be recognized, and at times a program must evolve

to address those issues before they can hope to achieve conservation aims (Andrade & Rhodes, 2012; Arambiza & Painter, 2006; Miller, 2003).

Paraguay Background and Initiatives

Paraguay specifically has had a history of approaching conservation and ecological preservation through dealing with largely private landowners; the Atlantic forest area is a prime example of this (Mansouruian, Aquino, Erdmann, & Pereira, 2014). In the past few decades, private landowners have had some of the greatest influence on reshaping the landscape; forest cover in the Atlantic forest region was shown to decrease from 73.4% in 1973 to 24.9% in 2000; overall from 1989 to 2000, 80% of areas that had been deforested were in fact cleared by private landowners to make agricultural tracts (Huang et al., 2007). Conservation approaches should therefore take this into consideration when building possible solutions.

A study by Carlson, Mitchell, & Rodriguez completed scenario analysis looking at conservation strategies specifically for Paraguay; they found that projections for conventional agricultural practices resulted in a decline in both economic and ecological arenas (2011). Traditional agricultural practices included activities such as tillage of soil and overuse of land through lack of crop rotation or land rest (Carlson, Mitchell, & Rodriguez, 2011). In fact, the only method that they found to be successful in a 50-year projection using several different techniques was that of "conservation agriculture"; this included practices such as no-till farming, in which the soil is not overturned or disturbed to successfully grow crops, and crop residue management, in which the remains of previous crops are left on the soil surface. These practices could reduce soil erosion, maintain soil integrity, and reduce abandonment of overused farmland (Carlson, Mitchell, & Rodriguez, 2011). If these goals could be achieved, there would be less need and less temptation to clear forested lands.

Another analysis looked at 38 smallholder farmers in eastern Paraguay and possible sustainability initiatives for them (Grossman, 2015). Grossman acknowledged the economic issues associated with land use practices, and looked at the variety of land uses employed in smallholder farms in eastern Paraguay. The main uses he found were subsistence farming, cattle pasture use, eucalyptus plantations, and undeveloped or natural land use. This correlated with other findings that most smallholder farms grow mainly cash crops and practice subsistence farming (Carlson, Mitchell, & Rodriguez, 2011). With ranch properties, in theory, it is a legal

requirement that 25% of the land must be set aside as forested protected land (Yanosky, 2013). Unfortunately, in practice, this is not always something that can be stringently monitored and managed. In addition, there is no consistency enforced in the undeveloped areas, in regards to where the undeveloped land is located, or practices such as coordinating with other parcels or landholders (Yanosky, 2013).

The use of national parks in Paraguayan conservation is something that has been looked at in the past; one such study by Yahnke, de Fox, & Colman (1998) conducted a preliminary biological inventory of four major national parks created in Paraguay, and found at the time 128 of 162 known and recorded species of mammals. The highest biodiversity was recorded in the Chaco area, and they found relatively little overlap amongst species found in the parks. Unfortunately, it was difficult to find followup studies focusing specifically on national parks in Paraguay, rather than a particular species or animal group. Even in this article, it acknowledges that national parks were in their infancy (Yahnke, de Fox, & Colman, 1998). It would be interesting to conduct some follow-up research denoting any changes or updates in status and information, as none could currently be located. As the researchers in the original study denote, this research over time could prove indicative in the ecological health of the various areas of the country.

Other South American Country Approaches

Some other South American countries have shown some success with conservation partnerships. Several of these countries share a large ecological area with Paraguay known as the "Gran Chaco", and often referred to as just "Chaco". The Chaco is currently being targeted by Brazilian cattle companies, which has resulted in rapid deforestation of the area. Between 2000 and 2005, Paraguay had the second highest deforestation rate in South America (FAO, 2006), and the estimated deforestation rate for the Chaco alone was 200,000-300,000 hectares per year between 2005 and 2009 (Yanosky, 2013). Paraguay has not yet adequately addressed conservation in the Chaco area, due to issues such as a lack of financial incentives for landholders, a lack of sufficient funding for designated protected areas, and a lack of proper monitoring mechanisms in place currently (Carlson, Mitchell, & Rodriguez, 2011; Yanosky, 2013). However, some programs have found great success in tapping into different types of local communities.

One example of a successful partnership addressing concerns in the Chaco was formed in Bolivia (Cuéllar, & Noss, Andrew J., 2014). This was actually a long-term alliance among a conservation organization, private landowners, and an array of indigenous peoples. This partnership initiated the creation of a national park, the Kaa-Iya National Park in Bolivia. They attribute the success of their partnership to a number of factors. For instance, they conducted comprehensive studies on both ecological and socio-economic issues; what is particularly notable is that they made the studies participatory (Cuéllar, & Noss, Andrew J., 2014). They also created specific zoned areas for different uses by both landowners and the indigenous peoples. Additionally, after the creation of the park and its ancillary usage zones, they conducted research and training of a participatory nature creating what they called "parabiologists" to help them with their studies of fauna in the protected area (Cuéllar, & Noss, Andrew J., 2014). From the training and partnership periods, people in the community became leaders in their own right and began to pursue their own research and studies on their own particular interests, moving beyond even the original vision. The experience provided an example of an extremely successful model that might prove adaptable to other situations.

Another example of a study carried out in the Gran Chaco area took place in the country of Argentina (Recatalá Boix, & Zinck, 2008a, 2008b). The development of a single crop - that of soybeans - is something that has been increasing from the 1970s in the Chaco area, and has been driven by an increasingly international and interconnected market (Recatalá Boix, & Zinck, 2008a; Yanoski, 2013; Gasparri & de Waroux, 2015). Unfortunately, this so-called "mono-cropping" has extremely negative impacts on the soil and dramatically decreases the long-term usage of land for agriculture. The researchers in this study pointed out how now even only marginally suitable land, such as that found in the Chaco plains and Chaco forest, are being utilized in response to growing international demand for crops such as soybean (Recatalá Boix, & Zinck, 2008a). They examined physical land suitability in their studies, but also addressed the economic issues involved, confirming the reality and the problem of unsustainable land use in the face of economic pressures. They found other factors at play in stripping the soil as well, such as lack of experience in farmers, access to (or lack thereof) agricultural technology, local economic and income demands, and lack of consistency and monitoring throughout land use. Their evaluation concluded that only 20% of land surveyed was considered to be highly suitable

not only for soybean cropping, but for most other crops grown in the area as well (Recatalá Boix, & Zinck, 2008a).

Possible solutions proposed were crop diversification and crop rotation (i.e., on a dry year, farmers might plant a more suitable crop such as safflower); this way, there can be some economic gain without perhaps total destruction or overexploitation of the land in use. In this particular research study, stakeholders were not a prominent part of the process. Researchers attempted to elicit survey responses from landholders, but participation was not strong (Recatalá Boix, & Zinck, 2008a). They identified the main stakeholders as commercial farmers (more large-scale) conventional farmers, and forest conservationists. In the second part of their study, they created simulated situations which they felt could be adapted practically throughout the Chaco area; however, there was no description of actual implementation or follow-up of the program (Recatalá Boix, & Zinck, 2008b).

One of the best examples of a long-term partnership was found in Argentina, between the Capitania de Altro y Bajo (CABI), an indigenous-rights group and the Wildlife Conservation Society, a conservation organization based out of the United States (Arambiza & Painter, 2006). This partnership has lasted for fifteen years, and has brought about many positive conservation changes in the community. When looking at their success, they have practiced many of the principles outlined by Toupal and Johnson (1998) for building successful conservation community partnerships, including incorporating participation, practicing open communication, defining goals, cooperating on decision-making and problem-solving, and encouraging leadership in the community. Those in the partnership attribute their success an initial recognition in differences in viewpoints and missions from the outset, and note: “Partnerships arise out of the experience of carrying out activities together, overcoming disagreements in a way that contributes to building mutual trust, developing a shared vision, and coming to understand what is, in fact, shared, and what is not” (Arambiza & Painter, 2006, p. 29).

Conclusion

There are a number of issues involved in the creation of successful ecological conservation and land management issues. The particular history, culture, and socio-economic conditions can have significant impacts on both the form that conservation initiatives take and the success that they may or may not engender. The programs with the highest success rates

appear to be those that encourage the most local participation and buy-in. When a local community is consulted and involved in the process of conservation initiatives, they are more likely in general to become invested and even move forward further. Paraguay alongside with other South American countries is facing some serious pressures that local involvement alone may not solve, such as the growing international demand for soybean crops and cattle ranching, both of which are excessively ecologically destructive. Further hope for conservation may lie in incorporating additional measures alongside partnerships, such as financial incentives and measures taken to minimize damage.

Successful partnerships are not uniform in how they arrive at their success, or even how they define it. Long-term investment in a community, open cooperation, transparency, and a willingness to truly listen to the local communities can go a long way towards building a successful partnership. Partnerships in many cases must continually evolve to cater to changing circumstances, as well as diverse community needs; oversimplification of challenges and overgeneralization of community composition and concerns lead to complications. Throughout the studies referenced in this paper, the need for listening to local communities was emphasized again and again. Conservationists must learn to be adaptable and open-minded in encounters with local communities, always keeping in mind the dual objectives of both maintaining biodiversity and providing support for indigenous communities at the same time. To pursue one without the other is not only short-sighted but also less likely to succeed overall in our increasingly integrated world. We must continue to think globally and act locally, which includes doing all we can to encourage and support local communities in their interests and endeavors.

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