AN ABSTRACT OF THE THESIS OF

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Abstract approved:

________________________________________________

Brent Steel

Madagascar, home to a high degree of endemic species and has been subject to numerous programs and organizations intent on preserving its biodiversity, which is currently pressured largely by anthropogenic causes. Protected areas, including national parks, make up a central part of these conservation efforts, combining ecotourism and restricting access for locals. This study looked to see how local people and conservation efforts interact, and how villagers view the concept of conservation at one site of one of Madagascar’s National Parks (Malio, at Andohahela National Park). In looking at viewpoints and opinions about conservation, park management and related factors, locals revealed a varying depth of knowledge about conservation and the systems supporting the park’s function. While the feelings of villagers regarding the park varied as well, it was largely considered problematic and many villagers expressed frustrations with limitations of the park impacting livelihoods, problems with park management, inadequate compensation and an inability to express their own needs regarding park planning and management. This localized study reflected challenges of a larger problem, coordinating the needs for livelihoods and conservation of Madagascar’s biodiversity, complicated by differential actions of interacting systems and organizations, cultural undercurrents, as well as systemic problems.

Key Words: Madagascar, locals, ecotourism, conservation
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Local Viewpoints on Conservation and Development at Malio, Andohahela National Park, Madagascar

by

Karin R. Bucht

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Karin R. Bucht, Author
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I would like to start off with a thank you to my mentor, Brent Steel, for guiding me through the IRB process and for being a consistent resource when I had questions. Thanks to Bryan Tilt for helping guide my ideas for the formulation of my study, helping shape my interview process. Also, thanks to Mark Needham for the feedback and being willing to jump on board as a committee member. And a big thanks to everyone who met with me, provided feedback and guidance through all stages of this project.

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the Study</td>
<td>1</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td></td>
</tr>
<tr>
<td>Madagascar as a conservation priority</td>
<td>2</td>
</tr>
<tr>
<td>History of Conservation Efforts</td>
<td>3</td>
</tr>
<tr>
<td>External Players</td>
<td>4</td>
</tr>
<tr>
<td>Local Importance</td>
<td>5</td>
</tr>
<tr>
<td>Andohahela National Park</td>
<td>6</td>
</tr>
<tr>
<td>Malio</td>
<td>8</td>
</tr>
<tr>
<td>Objectives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>13</td>
</tr>
<tr>
<td>Views Regarding “Conservation”</td>
<td>14</td>
</tr>
<tr>
<td>Threats to Conservation</td>
<td>15</td>
</tr>
<tr>
<td>Involvement with the Park</td>
<td>17</td>
</tr>
<tr>
<td>Park Implementation and Local Changes</td>
<td>18</td>
</tr>
<tr>
<td>Views on Park Management</td>
<td>20</td>
</tr>
<tr>
<td>Views on Vazahas and Conservation</td>
<td>22</td>
</tr>
<tr>
<td>Park Effectiveness</td>
<td>23</td>
</tr>
<tr>
<td>Problems with the Park</td>
<td>25</td>
</tr>
<tr>
<td>Qu’est-ce qu’on doit faire?</td>
<td>27</td>
</tr>
<tr>
<td>Madagascar National Parks-Andohahela</td>
<td>29</td>
</tr>
<tr>
<td><strong>Discussion</strong></td>
<td></td>
</tr>
<tr>
<td>Conflicts and Communication</td>
<td>30</td>
</tr>
<tr>
<td>Culture, Traditions and Livelihoods</td>
<td>31</td>
</tr>
<tr>
<td>Challenges</td>
<td>36</td>
</tr>
<tr>
<td>Solutions?</td>
<td>38</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>43</td>
</tr>
<tr>
<td><strong>References</strong></td>
<td>45</td>
</tr>
<tr>
<td><strong>Appendices</strong></td>
<td>47</td>
</tr>
<tr>
<td>Appendix 1- Interview Questions (Translated into English)</td>
<td>48</td>
</tr>
<tr>
<td>Appendix 2- Interview Questions (As administered, French)</td>
<td>50</td>
</tr>
<tr>
<td>Appendix 3- Personal Communications/Interviews</td>
<td>52</td>
</tr>
<tr>
<td>Appendix 4- Malio Zonage Map</td>
<td>53</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

**Figure 1:** Andohahela's Location in Southern Madagascar, in between Anosy and Androy regions-Southernmost and Southeastern regions indicated on map ...........7

**Figure 2:** Zonage map of Andohahela, arrow indicating location of Malio .......................7

**Figure 3:** Main village of Malio ..........................................................................................8

**Figure 4:** Satellite Map of the study area, showing relations of hamlet locations to one another and the number of interviews at each hamlet, respectively. The park limits are located beyond (to the upper left or Northwest of) Analamalary and Bevava, while the road extends down (Southeast) from Bedobaka.......................12

**Figure 5:** Deforestation for manioc cultivation within park limits ...................................16

**Figure 6:** Hiking circuit within the park ........................................................................17

**Figure 7:** Missing park sign, after being recovered ..........................................................21

**Figure 8:** Burned area in park, for zebu grazing ...............................................................24

**Figure 9:** From the perspective of visiting the park circuit, the forest appears to be mostly intact................................................................................................................25

**Figure 10:** Zebu grazing within park limit ........................................................................31

**Figure 11:** Remains of cooking fire within park ...............................................................31

**Figure 12:** Cutting of tree, permitted within park limits, for construction of coffin ......32

**Figure 13:** Outside and interior of sacred forest/family cemetery ....................................33

**Figure 14:** Hole in bridge along route returning from Malio, indicative of infrastructure challenges limiting tourism access................................................................................37
LIST OF TABLES

Table 1: Background Information of Study Participants ..........................................................13
Local Viewpoints on Conservation and Development at Malio, Andohahela National Park, Madagascar

Introduction to the Study

This study aimed to illuminate the perceptions of villagers in one locale of many protected areas in Madagascar. In the context of the village and tourist site of Malio, this study reveals opinions of local inhabitants regarding conservation efforts and their interactions with Andohahela National Park. Local peoples’ attitudes and perceptions have been shown to shape interactions with and actions within protected areas, influencing conservation effectiveness (Ormbsy and Kaplin 2005) and this study looks to see how conservation is or is not achieved in relation to the villagers of Malio. Also examined is the knowledge of villagers regarding the complex system of relations, donors, and organizations that influence Madagascar’s conservation, and the beliefs of villagers regarding the problems faced by conservation and community development efforts.
Background

Madagascar as a conservation priority

Madagascar is globally recognized as a biodiversity “hotspot” with over 80% of its plants and animals endemic to the island (Medley 2004; Marcus 2001). Its high degree of biodiversity has led to considerable international attention, intent on preserving species in Madagascar that exist nowhere else in the world, including international dollars invested for the sake of conserving species diversity and botanical possibilities for pharmaceutical purposes (Gezon 2006). Madagascar is considered a high conservation priority due to its high endemism and threatened ecosystems, which are now facing numerous anthropological pressures (Kauffman 2006). Ecological threats include, but are not limited to: deforestation, erosion, resource exploitation, pressures from introduced species, fires, slash and burn agricultural practices, disease, and drought (Marcus 2001; Kauffman 2006). These pressures link back to the people who inhabit Madagascar, as many pressures such as agricultural methods and resource exploitation are means of survival and a way of life.

Madagascar also attracts international attention in that it is extremely poor (it ranked 145 out of 182 countries in the 2009 Human Development Index) attracting considerable financial aid directed toward development and raising the country’s standard of living (World Bank website; Horning 2006). Given this attention and importance for Madagascar’s environment and development, its environmental program is considered an ideal example of conservation in developing countries and the challenges involved (Medley 2004).
The history of conservation in Madagascar involves its evolution of protected areas. Protected areas in Madagascar, described by Horning (2006) as the most “explicit attempt” at keeping farmers out of the forest, have generally fallen under much of the protected area legislation and policy in “defining what human behavior and actions ought to be in a particular location and restricting it accordingly” (West and Brockington 2006: 610). Madagascar’s modern history of national protected areas began under the French colonial government in 1927 with the implementation of Strict Nature Reserves (Réserves Naturelles Intégrales or RNIs), which strictly prohibit human access with the exception of entrance for scientific and research purposes (Durbin 1994). The 1950s and 1960s saw the creation of the Special Reserves (RS), which allowed for some traditional local use (Durbin 1994). National Parks, which allow for some local uses and tourism, evolved with the first national park established under French colonial rule in 1958 (Peters 1998). Today, Madagascar National Parks (MNP), established in 1990 as ANGAP (Association Nationale par la Gestion des Aires Protégés), manages 53 protected areas. MNP operates today under the mission to "establish, conserve, and manage in a sustainable fashion network of national parks and reserves that represent the biological diversity and natural heritage of Madagascar," with its five sectors of operation – conservation, research and ecological monitoring, ecotourism, development, and environmental education.

In Madagascar’s history of conservation efforts, the 1990s saw a shift to the focus of integrated conservation methods with the introduction of this country’s National Environmental Action Plan (NEAP) and Integrated Conservation and Development Projects (ICDPs) (Fenn 2003). Madagascar’s NEAP was a three-phase program, starting in 1992 and
recently ending in 2008, which attempted to incorporate conservation, development, and capacity building. The idea behind ICDP's recognizes the need for economic livelihoods, despite debate on the logic of incorporating environmental conservation and development (Gezon 2006). By the mid 1990s, however, ICDP’s were determined to be largely ineffective neither protecting the environment nor involving locals, and the plan attempted to shift focus to conservation over a broader landscape, economic development, and decentralized regional planning (Medley 2004). Another recent development in Madagascar’s efforts of conservation is the Durban Vision, which was launched in 2003 with President Ravalomanana’s declaration to triple the extent of land in Madagascar’s protected areas in five years (Rioux Paquette et al. 2009).

External Players

Just as parks have had an extensive role in conservation efforts in Madagascar, external influences, foreign governments and nongovernmental organizations (NGOs), have also had an influence in the existence and regulation of Madagascar’s environmental plans. Biodiversity loss is a global environmental concern, so many international voices act on this by becoming involved in Madagascar's conservation and environmental activities (Gezon 2006). As stated by Horning, demonstrating just how much influence foreign bodies can have, “Absent this state’s capacity to devise or carry out its own environmental policies, foreign donors have been able to dictate how conservation should be done” (2006:17). The creation and maintenance of organizations such as ANGAP and the Ministry of the Environment, Water and Forests have been possible through foreign donor financial and technical assistance (Horning 2006). Within the realm of international donors and
organizations, interactions occur as well, for instance, USAID’s environmental programs which “essentially adopted [that] of their NGO partners” (Medley 2004: 335). According to West and Brockington, Madagascar policy has “a deep intertwining of local, national, and international ‘goals’ based on donor interests and funding points” (2006: 613). Another such example of interactions among organizations is in Masoala National Park, which in 2005 was co-managed by ANGAP and a conservation NGO (Ormsby and Kaplin 2004). The web of players involved in conservation efforts becomes ever more complicated, going beyond funders and governing bodies, down to the people who work with the parks and the people whose everyday lives are affected by their proximity to conservation areas. Despite the funds and extensive organizational efforts by external players, in the end local people have one of the biggest impacts in achievement or lack thereof in conservation.

Local Importance

The “Yellowstone model” of conservation for protected areas, which prioritizes ecotourism over local people (by keeping local people out, but allowing for tourist access), can put strain and potentially create conflict between locals and protected area (Kauffman 2006). Conflicts arise from lack of communication or lack of positive relations with park staff, restrictions on resource use, forceful evictions, and lack of resident participation in conservation (Ormsby and Kaplin 2005). Protected areas can impact people living in or near them from their understanding and use of resources, to beliefs and their very presence living in the area (West and Brockington 2006). Just as protected areas influence the local people who live in and around them, these people themselves impact the efficacy of conservation efforts. Conflicts experienced by villagers can manifest in a number of acts of defiance
ranging from expression of negative sentiments toward protected areas to threats or harm to park staff or intentional burning (Ormbsy and Kaplin 2005). Given these conflicts, attention to locals is important when considering protected area management. As described by Kauffman “People are as intrinsic to the solution as they are the problem” (2006: 187). Paying attention to local voices, communities often disregarded by sponsors, and the memories and opinions of local people about the area also give access to a generally “untapped resource” in conservation (Medley 2004; Ormsby and Kaplin 2005). For these reasons, surveys of public opinions are important in providing guidance for policies and management in conservation and development projects. The idea of linking local opinions and relations with conservation efforts was emphasized in this study, in the context of one protected area: Andohahela National Park, in the south of Madagascar.

**Andohahela National Park**

Andohahela National Park was formed as a strict nature reserve (RNI) in 1939 and was converted into a national park in 1997 (Fenn 2003). Previous to current management by MNP (previously ANGAP), Andohahela was managed by World Wildlife Fund (WWF). The management transfer occurred alongside the transformation of Andohahela from RNI to a National Park (Swanson 1997; Desire, MNP Sector Chief for Malio, Interview). Located in the south of Madagascar, Andohahela is primarily in the Anosy ethnic region, but partly includes the Androy region as well (See Figure 1). The park occupies an area of 76,020 hectares and is made up by three parcels, each parcel representative of a different forest type (humid, transitional and dry) (Madagascar National Parks website). Given its variety of forest types, Andohahela represents a rich diversity of species in both plants and animals.
Surrounding the park are numerous villages and hamlets, home to around 77,000 villagers (Madagascar National Parks website). Andohahela was also one of a number of protected areas targeted in Madagascar’s NEAP and with locales chosen for Integrated Conservation and Development Projects (Marcus 2001). As is the case with all Madagascar National Parks, revenue from park entry fees is to be split 50-50 between MNP and development purposes for local populations (Madagascar National Parks website).

**Figure 1:** Andohahela's Location in Southern Madagascar, in between Anosy and Androy regions-Southernmost and Southeastern regions indicated on map (Source: MNP website)

**Figure 2:** Zonation map of Andohahela, arrow indicating location of Malio (Source: ANGAP 2002 Status Report)
Malio

Among Andohahela’s five tourist sites, Malio was chosen as a site representative of the humid forest, in parcel 1 (See Figure 2). Before becoming a National Park, and the transfer of management from WWF to ANGAP in 1997, the limits of the park were extended to include more forest that was still more or less intact (Desire, MNP Sector Chief for Malio, Interview). The site involves a 10 km circuit, a hiking loop alongside the Chute d’eau Andranomitily (river and waterfall) with a path that was constructed by villagers of Malio and then opened in 1999 (Desire, Interview). Some of the flora and fauna that can potentially be found at Malio include precious wood trees, more than 200 species of fern trees, orchids, lemurs, and 87 known species of birds, 57 of which are endemic to Madagascar. (Travel Madagascar 2010; Fishpool and Evans ed. 2001).

The site receives relatively few visitors (for instance only 9, from January to October 2010), partly due to the poor state of the roads, and the need for a 4x4 vehicle to access the tourist site any time of year, and little accessibility during the rainy season (Desire,
Interview; Travel Madagascar). The park office for tourists and a place for visitors to pitch tents is located within the village commune, fokontany, of Malio, which includes the main village “Malio” (Figure 3) and the several hamlets (districts located away from the central village) surrounding it. The village commune and agricultural fields of Malio’s residents border the park boundary.

Objectives

This study examined local perceptions in Malio regarding the conservation efforts of Andohahela National Park. Overall, this research attempted to discern how individuals are affected by the park’s presence, how they view any associated development activities, and their opinions on what further actions or changes would be most mutually beneficial to biodiversity and locals. This included first determining how villagers interpret and view the concept of conservation and what they see as threats to conservation. The study looked at individual’s own experiences and interactions with the park, and the communication present between villagers and the park management. Also, given the role of foreign actors in Madagascar conservation, this study investigated how villagers perceive these actors, by asking about foreign conservation efforts. Also, this study aimed to illuminate what problems, if any are encountered by villagers regarding a variety of facets with the park, including livelihoods in proximity to the border, goals and methods of the park, as well as management and local customs. With this study, opinions on how well the park “works” in context to those who live closest to it can be shown and potentially provide insight into future management considerations.
Methods

To determine how villagers living near Andohahela National Park perceive and are impacted by the park, 20 interviews were conducted with local inhabitants in the village of Malio with local and the surrounding hamlets Bedobaka, Analamalary, and Bevava, between the dates of November 4-11, 2010. Contacts for interviews were made with the assistance of village acquaintances, including the fokontany (commune) president and other individuals who hosted our stay in the village.

Interviewees were found as available in their homes or outside them, which was generally where the interviews took place as well. Once contacts were made, the study was introduced and oral consent was obtained. The interviews were conducted following a guide of 21 questions in four general areas (See Appendix 1); views on conservation in general, experiences with the park, opinions on organizations and governments in regards to the park, and opinions on the park’s effectiveness. One question (III.4) in the interview guide was skipped in all of the interviews because it referred to development projects associated with the park, but no development projects had yet been implemented in Malio. Interviews also included six general background questions at the beginning of the interview. The interviews were conducted in Malagasy with the help of a French-Malagasy translator, and written notes of the responses were taken in French.

Potential biases in the research include ambiguity and misunderstandings in translations between Malagasy and French, as well as misunderstandings regarding definitions of certain concepts. It is also possible that there was some bias in responses through villagers’ desires to reveal their true sentiments to a foreigner or fear of retribution.
from authorities. Based on responses given, however, there seemed to be little hesitation in expressing both positive and negative sentiments. Analysis of the interview responses looked at and tallied themes in the responses given, for each question in the interview guide. Also the sample may not be representative of all villagers, in that older individuals and men were preferentially seen as appropriate participants by locals, or felt themselves knowledgeable enough to participate in the study.

Informal interviews were conducted at the office of MNP, with the chief of development and environmental education/ecotourism (prior to study) and the Chef de Secteur (MNP staff, the site manager for Malio) following time in the field. Also following time in the field, a brief visit and informal interview at the NGO Fafafi was conducted, based on comments referring to Fafafi in a previous interview.

Supplementing interviews, this report incorporates participant observation of the village culture and customs, and uses of the park and forest during our time at the study site. Participation included visits to agricultural fields, and attendance at various ceremonies following a death in the village of Bedobaka, helping integration among the villagers and also giving context to responses given in the interviews. Following the interviews to gain a “tourist perspective” of the site, a hike the Malio circuit with a local park agent, allowed some firsthand observation of the park interior and the degree of visible conservation.

Of the twenty interviews conducted, eleven of the interviewees were habitants of the main village of Malio, six were from the nearby Bedobaka, two from Analamalary and one from Bevava (See Figure 4). The locations of the village hamlets are such that in driving to Malio, the road passes through Bedobaka where the visitor welcome office is located for the Malio tourist site. The farthest one can go by vehicle is into the center of the village of Malio.
The much smaller hamlets, Analamalary and Bevava, are located farther from Malio and closer to the park entrance. Analamalary is about a 20-minute's walk from the village of Malio, whereas Bevava is another 10 minutes further from Analamalary. In getting to the park entrance to go on the tourist circuit, one leaves from the village center of Malio and passes by Analamalary before getting to the head of the trail. Thus, the villages are situated slightly differently in their relation to tourists, the proximity of the park as well as with proximity to the other villagers.
Results

Of the individuals interviewed, 18 were male and two were female. The ages ranged from 34 to 70's, with four individuals in their 30's, five in their 40's, six in their 50's, four in their 60's, and one individual over 70. The occupation of all of the villagers interviewed is agriculture principally rice, manioc, and sweet potato farming but numerous other types of crops were observed being grown in the area including tobacco, corn, tomatoes, and pineapple. One of the women interviewed also mentioned mat weaving in addition to her agricultural work.

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Table 1: Background Information of Study Participants

Level of education was markedly low, with seven individuals never having attended school, seven who attended one or two years of primary school, five who attended three or four years, and one individual who attended school for seven years, therefore having the
highest level of formal education among interviewees. The majority of interviewees lived in their current village since birth with only three having lived in their current village for fewer than 20 years. Reasons for moving included familial reasons (marriage, care of elders), better land, use of ancestral lands, and to guard the family tomb from deforestation or burning by others.

*Views Regarding "Conservation"*

The first question of interest investigated in this study was perceptions regarding the concept of conservation. Of the 20 interviewees, two said they did not understand the concept of conservation. The main definitions given for conservation fell into four general categories: (a) conservation to prevent destruction of the forest (including protection of plants and animals); (b) conservation for the sake of being able to continue agriculture; (c) conservation as protection for human sake; and (d) conservation being imposed "interdictions" or bans by MNP (usually referred to as ANGAP) or foreigners. The most common responses were not burning the forest or creating brush fires, protection of animals, and conservation of trees for preservation of water thus allowing agriculture. These three ideas were mentioned by seven individuals each (many respondents listed multiple facets defining conservation). Of those who understood the concept of conservation and gave a definition, all but two were able to give a reason for its importance and of those who did not, one did not know and the other did not believe it was important as they equated conservation as being forbidden from resources. Elements of conservation’s importance were named to include: means for living (especially water for agriculture, but also food from the forest and wood for construction) and the importance of preventing destruction of the forest and conserving for future generations.
Responses given regarding the concept of conservation and its importance commonly point to the agricultural background of villagers. Twelve respondents mentioned the link between conservation of trees and conservation of water and its importance for agriculture. Two others mentioned water as one of the most threatened things in conservation efforts and two more described conservation as being agriculture or cultivation itself, demonstrating the importance of water and cultivation to villagers and its link to their visualization of conservation.

Despite almost all interviewees being able to name reasons for why conservation was important to them, (e.g., importance for water for continuing agricultural practices and ensuring continuation of resources on which people depend), the opinions on whether individuals find conservation desirable were divided. In total, eight interviewees claimed to prefer conservation, eight would rather conservation did not take place, and four claimed to like the concept of conservation, but expressed the need for the park limit to be pushed back further from the village (to its old limit). It was clear from the responses that those who did not favor conservation viewed the concept as an imposed limit on their access to the forest and land, and saw the question as referring to conservation in terms of practices used by the park. Those who favored conservation mentioned its importance for future generations and its importance for water conservation.

_Threats to Conservation_

Lack of water was the most mentioned threat facing conservation efforts in the park. In addition to water problems, there were five respondents who did not know what the biggest threats were, and two who discussed their inability to use resources in the forest
because of bans and forbidden entry, rather than the resource being necessarily threatened. Other threats that were mentioned included disappearances of wild pigs, lemurs, wild horses, and *raty* (ravinala palm), a tree species used for construction of houses. Honey, wild potatoes, the forest in general, and "wild men" were each mentioned only once as things that are threatened.

Villager viewpoints regarding threats to conservation reflected only weakly of those discussed by a local park agent, while hiking the circuit. The one parallel threat mentioned by both this agent and villagers is lemurs, which are threatened in that they are caught to be eaten. This process, in itself, causes problems, as the method for catching lemurs involves cutting many trees for the construction of traps, making the issue of lemur hunting a problem for multiple reasons. Another threat mentioned by the park agent was exploitation of hardwood trees, rosewood and ebony. These are not exploited by locals, but by outsiders who are not from villages that bordering the park. Threats facing the park mentioned by M. Desire, the Chef de Secteur for Malio, also included the problem of lemur trapping, continued deforestation and cutting within the park, and entrance into the park by villagers who use the hiking circuit as a path going between villages (the path between villages was in existence before and converted to make part of the circuit).

![Deforestation for manioc cultivation within park limits](image-url)
Involvement with the Park

Of the 20 villagers interviewed, 13 had had some involvement with the park generally in the form of work. Most commonly mentioned (by 10 individuals) was the construction of the circuit (hiking path) in the park in 1999, for which the entire village of Malio was recruited. This construction appeared to be generally limited to the village of Malio, as the respondents of Bedobaka, Analamalary, and Bevava did not recount working on the construction of the park’s paths. Other experiences included work as porters, and for a few, work specifically with park agents as assistants or guides.

The general consensus was that working in the park did little to change villagers’ opinions of the park, but their participation was seen only as work to earn money. Two individuals expressed that the money received was not sufficient, whereas other individuals expressed frustration that they were previously able to work as porters or guides, but now MNP provides their own staff, eliminating that possibility for employment.

Figure 6: Hiking circuit within the park
Park Implementation and Local Changes

Andohahela’s implementation as a park was not the creation of an entirely new entity in respect to local people, as it had existed as a protected area since 1939. Andohahela was converted to a park, from its previous state as a RNI (Strict Nature Reserve) in 1997. As all but one participant had lived in the area prior to this change, most of the villagers interviewed had seen the change from RNI to National Park. Interestingly, as a National Park, permissions regarding park entry are more lenient compared to a RNI’s, as tourist entry is permitted. As a park however, ANGAP was allowed involvement with direct enforcement in protected areas, whereas previous enforcement was not very effective (Swanson 1997). ANGAP’s management role, the creation of more definite authority and actual enforcement of park limitations is most likely what was experienced and by villagers who expressed being dissatisfied with the way things are now, as opposed to “before.”

When asked about changes that have occurred in the village or countryside since Andohahela’s implementation as a park, 11 individuals remarked that there were no changes in the village or countryside caused by the implementation of the park, eight mentioned certain changes that had occurred, and one individual could not comment having only lived in the village for three years. Of those who mentioned changes, three remarked at lower levels of production from agriculture and causes linked to lack of rain and climate change, but not changes actually caused by the park’s implementation. Changes discussed that are (potentially) caused by the park’s implementation include houses in the village being located closer together and there being less space, the use of steel for roofs instead of raty (leaves of the ravinala palm, which grows and is used for construction throughout Madagascar), and one individual explained how a forced change in location for cultivating manioc actually
improved cultivation. One interviewee said that the life expectancy is lower (“there are fewer old people”) in the village, but it was not clear whether this was perceived as being caused by the park or not.

Another potential change for villages around the park that has been linked to Andohahela’s implementation, due to the NEAP, is development projects. The clear consensus among villagers was that there have been no development projects undertaken in Malio. Twelve individuals had not heard of development projects being associated with the park, although some mentioned they had heard of “benefits,” but not specifically what these benefits constituted. There were eight interviewees who had heard of development projects including proposals to redo the roads and school construction, but up until now have not seen any projects undertaken.

The interview question asking about the costs and benefits of the park was interpreted in interviews to mean in terms of money, and the consensus of villagers was that there are no benefits received by the village (19 interviewees responded as such and one did not know). Three individuals mentioned that they previously received a portion of fines paid by people caught in the park, but no longer. Villagers stated that they do not see the 50% entry ticket money that should be allotted to them, and the opinion that tourist money and money from penalty fines go straight to park agents. Two individuals also mentioned benefits that they had personally received working with vazahas (foreigners/tourists), but stated that that there are no benefits for the village.
Views on Park Management

Awareness of park management was relatively consistent among almost all of the interviewees, all but one individual named either ANGAP, MNP, or various agents of MNP (e.g. those living in the village, the Chef de Secteur) as the body making decisions regarding the park. There was also general consensus among villagers interviewed that besides MNP (usually described as ANGAP by villagers), outside organizations and governments play little role in management of the park or development projects in the village. In this respect there seems to be a discrepancy between the information given by MNP, the villagers, and reality. An interview with the Chef de Secteur (site manager for Malio) named NGO’s ASOS, FaFaFi and Aide et Action, as having projects or relations to Malio. In visiting the NGO FaFaFi itself, it was learned that the organization had done work in nearby areas including the commune of Manambaro (in which Malio is included) but not work specifically in areas surrounding Andohahela National Park (Livera, Administrative Director for FaFaFi, Interview). There were a few mentions by villagers of previous managers, including WWF (World Wildlife Fund) and the Ministry of Water and Forests, as well as an association of village representatives (referred to as the casti), who manage along with MNP. Also mentioned by four individuals were vaccination campaigns by the state that have passed through the village a few times.

It was generally said that communication does occur between park agents and villagers in the form of meetings. There was only one respondent who explicitly said that there is no communication, one who was unsure, and three who said that there has been communication before, but not recently. Discussion regarding meetings and communication between park agents and village representatives outlined a general process that occurs. When
there is to be a meeting held, the president of the fokontany (village collective of Malio and the surrounding hamlets) blows the antsiva (a horn) to call together the meeting, which takes place at the house of the president in Malio or the school, located between Malio and Bedobaka. Reasons for which meetings take place included passing messages, when decisions are to be made and to discuss interdictions (bans), logging, or fires. Also mentioned in the discussion of communication between villagers and park agents was the fear of villagers to discuss their own hopes and ideas, and an inability of their own opinions to be heard and respected in such meetings.

During time in the village such a meeting took place that illuminated some of this communication process. The Chef de Secteur (site manager for Malio, who lives in Fort Dauphin) arrived on a Saturday evening to call together a meeting the following morning. The next morning, the antsiva was blown to call the meeting. The meeting was regarding a park sign (Figure 7) that had gone missing and the villagers were made responsible for

![Figure 7: Missing park sign, after being recovered](image_url)
finding the sign or paying for its replacement. The village meeting then continued without
the park agent, regarding finding the sign. Later that day, the sign was recovered, but the
villagers were still considered responsible for paying a fee, bribing the park agent, or paying
for the cement to reset the sign. The Chef du Secteur left that day to return in a week
regarding payments for resetting the sign. This chain of events seems to represent the
relationship and interactions that take place between villagers and park agents.

Demonstrations of resistance, such as the removal of the sign, are responded to with force of
authority, which is something villagers cannot fight and only pay amends to avoid further
punishment.

Views on Vazahas and Conservation

This study looked to see how villagers view foreign actors in Madagascar
conservation by asking, “How well do you think governments of foreign countries are at
attaining conservation in their own countries?” Although most villagers said there were no
foreign governments or organizations that play a role in park management or development
projects (at least at the local level of Malio), several of the interviewees were able to
postulate as to whether foreign countries such as the United States are able to achieve
conservation in their own countries. Of the 20 interviewees, nine individuals stated that they
did not know, with little context to make a judgment. Of the 11 who hazarded a response, all
but one thought that foreigners are successful at achieving conservation in their own
countries. Some responses stated that was that forests are not yet destroyed in other countries
and that other countries have money for conservation efforts. Reasoning for perceived
foreigners’ success at conservation included: “Because if they can succeed [at conservation]
here in Madagascar, they can do it in their own countries” and because vazaha (foreigners) strictly enforce their laws, “they are strict, if they catch someone [that person] is taken to authorities.” The belief that effective conservation by foreigners is achieved through strictness and fear reflects on how the villagers view the concept of conservation and its link to rules and limits.

**Park Effectiveness**

The concept of fear, an imbalance in communication, and dissatisfaction with park agents were commonly brought up, in responses to several different interview questions. One such question that brought up the element of fear imposed by the park was in discussing whether the park is effective as a reserve. With the exception of one individual who was unsure how to respond, all of the other respondents said that the park is effective to some degree. One interviewee simply said that “the park works well” and another stated that the forest is well protected by park agents, and that relations with park agents are good. Most of the responses, however expressed that the park was effective for conservation purposes in that agents are strict. Responses expressing this association included: “Agents have succeeded at conservation up until now, they have succeeded in creating fear in villagers, and that is effective at stopping cutting [of trees] and burning.” and “The park is effective [in that] people are afraid to enter to cut [down trees] or work in the interior [of the park]. If caught by the [park] agents, you have to pay a fee.” The overall response from villagers regarding park effectiveness was that if the park is effective at keeping villagers out, it must be effective at conservation.
Visiting the park and hiking the Malio “Circuit des Cascades,” gave a slightly different impression than from the voices of villagers. In approaching the park entrance after crossing the agriculture fields and by the smaller hamlets, the area of conserved forest in the park is drastically different from the mostly cleared area surrounding the village. The forest itself appears to be well conserved, although there are occasional signs of disturbance. These signs included small campfires occasionally left smoldering made by villagers who pass through the park going between villages. In one spot was also evidence of a bird being caught for a meal, as a pile of feathers next to one of the charred campfire remained. Signs of the park being used for zebu (cattle) were also visible along the circuit, in the form of a burned patch for grazing (Figure 8), and at one point a herd of zebu themselves within park limits. Overall, the small amounts of degradation visible from the tourist circuit detract slightly from the pristine “wilderness” one might expect from a protected area, but for a tourist visiting the park circuit the area would appear to be generally conserved (Figure 9).
Figure 9: From the perspective of visiting the park circuit, the forest appears to be mostly intact

Problems with the Park

Prefacing the question of compatibility of the park’s goals and methods with the village was a question about the purpose of the park. Seven respondents stated they did not know why the park was established, but all but two were able to offer an explanation as to the park’s goal(s). Most commonly mentioned was that the park was implemented or ordered by either the state or foreigners. One individual who had never visited the park voiced the opinion that vazahas (foreigners) had created the park so they could do their own cultivation within the park. Also mentioned was that the park was imposed by ANGAP or the state to forbid entrance to locals and so that tourists can visit and see things in the park. The next most common response regarding the park’s objectives was for conservation purposes; interviewees suggested that the park was to protect animals, water, and resources in general, or to provide for future generations. Other possible explanations given, focused on providing
reasoning for the park’s locality in Malio, and included that something interesting or important to conserve had been found in the forest by park agents and the possibility that there was more forest left in Malio than in other places to conserve.

The follow-up question asked whether there are problems with the park’s methods or goals. This seemed to elicit responses primarily discussing the park’s management methods. The majority of respondents (13) stated that there are problems with park management, including difficulty obtaining permits for cutting, a variety of forbidden activities (burning, entrance into the park), poor relations between agents and villagers, and problems with authority (such as being caught and having to pay fines and being unable contest with state authority). Four respondents who said there are not many problems, but reiterated desires for more terrain (achieved by pushing back park limits) and being able to cut trees. Only three respondents said there are no problems with the park methods and goals.

Due to some evolution in the interview process during the first few interviews, this question (“Does living close to the park border cause problems for the people who live there?”) was only asked of 17 individuals and a majority (12) responded that “yes,” living near the park causes problems for people living there. The problem of land, location of park limits, and desire for more agriculture space were most commonly mentioned. The degree to which living near the park causes problems for people seemed to differ, as two individuals mentioned that there was only one problem, while another respondent said that there were many issues.

The question of traditions and customs, and their compatibility with the park elicited a different response than previous questions about the park’s methods and proximity. Sixteen responded that there are no problems regarding local traditions and customs in relation to
park management. Allowances, such as being able to cut trees within the park limits for coffins, continued usage of a family tomb (which is located within the park limits), and the sacrifice of a *zebu* for villagers at the implementation of the park, pleased villagers and showed proper respect for their customs. Reasons for which villagers felt there were problems focused on similar topics, including the desire for the family tomb to not be included in the park limits and that villagers should be allowed use of ancestral rice fields that are also within the park’s limits. Overall, the expression of problems faced regarding life near Andohahela National Park in Malio revolved around limitations to livelihoods and regulations that are problematic, whereas the traditions have been more or less accounted for in park management.

*Qu’est-ce qu’on doit faire?*

Despite varying responses regarding the favorability of conservation, park management, and individual experiences, desires for changes in the park’s management was expressed by all interviewees. The most common response to the question: “Qu’est-ce on doit faire alors que le parc mieux atteindre les besoins des peuples et d’environnement” or “What should be done so that the park better meets the needs of both people and the environment” was to push back the park limits, allowing villagers to have access to more terrain. Villagers did not respond to this question in terms of meeting the needs of the environment, it is possible this element of the question was lost in interpretation of the question, or possibly due to the perspective of most villagers, feeling the park was already effective at meeting environmental needs (seen as effective at conservation) and it was the needs of the people that needed to be addressed. This repeated response echoes the strong
majority of villagers (18 of 20) who expressed the desire for the park limits to be farther away, largely due to the need for more land for agriculture. Also frequently mentioned was the increase in population, “children are more numerous,” so there is a need for more land to feed the family and ensure future livelihoods. Other reasons for desiring more distance to the park included burning agriculture techniques that could otherwise be used, fear of accidents regarding fires (e.g., children building cook fires) and proximity to the park limits. One respondent, who was satisfied with the current limits mentioned that if the limit is pushed back the forest will be cut and destroyed, demonstrating one individual’s desire for conservation over having more land. There was also frequent mention of the “old limits” and a desire for the park limits to be reset at their previous locations, which are farther away and do not include ancestral tombs and rice fields.

Beyond changing park limits allowing for more land, the desires of villagers for changes to be made included dividing tourist dollars for Malio with villagers or receiving some type of compensation (such as rice or money) for limits on cutting trees and entering the forest, changing the current park agents or following the management methods previous to ANGAP’s (MNP), and following through with development projects for improving the roads and school. Other wishes for changes regarding current bans include allowing for construction of dams or a canal to direct water into rice fields and allowing for more extensive cutting of trees, banning cutting only at the source of water. “For the good of all, the agents should only forbid cutting at the source of the water, not further down.”
Informal interviews with two MNP employees illustrated some of MNP’s activities and partnerships with other organizations. Overall, MNP describes its activities as having five major focuses: conservation, research and ecological monitoring, ecotourism, development, and environmental education. Research such as surveys of plants and animals, or concentrations on certain conservation priorities (e.g. lemurs) are included in the realm of conservation, which is MNP’s first priority. According to the Chef de Secteur, site manager for Malio, the local population works with MNP in conservation efforts, and MNP also helps facilitate connections between locals and NGO. Organizations such as NGOs (including ASOS, Fafafi, Azafady) and QMM mining company (a subsidiary of Rio Tinto, mining for ilmenite in Southern Madagascar), which has protected area sharing a border with Andohahela National Park, interact with Andohahela National Park and its management. These organizations play roles working for similar goals and activities to those of MNP (conservation, development and environmental education). Examples of NGO activities in areas surrounding the park include planting projects, agricultural development, and school rehabilitation, although from discussion with villagers in Malio these activities clearly have not been taking place in the entire periphery of the park.
Discussion

Conflicts and Communication

One recurring theme in villager's responses during this research was a degree of dissatisfaction with management of Andohahela National Park in relation to the village, as well as a lack of complete understanding by villagers regarding the roles of different actors involved with the park. The commonly expressed desire for the park limits to be pushed back to their previous location (i.e., further away) illustrates a similar gap in the awareness of the park goals and permanence of boundaries, as found in a study examining perceptions at Masoala National Park (Ormbsy and Kaplin 2005). The quality of relations and communication with park staff was another theme with which villagers generally perceived there to be problems. The concepts of fear and perception of the park as a foreign intervention were commonly expressed; repeating themes found in Marcus’ (2001) research at three Madagascar national parks (Andohahela, Masoala, Ranomafana). The lack of quality interaction between villagers and park staff can create conflict, as can the top-down state imposed approaches to protected area management (West and Brockington 2006; Ormbsy and Kaplin 2005).

This conflict was visible, not only in responses given by villagers, but also by observations and events that took place during the study at Malio. The missing park sign, continued slash and burning within the park, cooking fires, and burning for zebu (cattle) grazing within the park limits (See Figures 10 and 11) were all visible signs of a less-than-ideal coexistence between the park and village. Other studies (e.g., Ormbsy and Kaplin 2005)
have illustrated the importance of positive communication between park staff and communities, suggesting the inclusion of neighborly contact, environmental education, and community meetings as necessary approaches for managing relationships between villagers and staff, and alleviating conflict regarding the park.

**Culture, Traditions, and Livelihoods**

One such type of positive interaction between officials and locals includes recognition and respect for local culture, as described by Gezon “by participating in ceremonies, people acknowledge legitimacy of social order” (2006: 160). In this regard, the overall consensus was that there are few problems regarding traditions and customs, and efforts of the park management pleased villagers, such as the sacrifice of a *zebu* (cow) at the
park’s opening. One example of the importance of participating in ceremony and an illustration of the importance of ceremonies regarding death and ancestors was illustrated during time spent in Malio.

Figure 12: Cutting of tree, permitted within park limits, for construction of coffin

A death in Bedobaka suspended the interview process in order to participate in observance of local custom. Ceremonies lasted over the course of multiple days, including paying respects, the process of cutting a tree and fabrication of planks for the coffin, sacrificing zebu, and the process of the burial itself. Another sign of respect for village customs by park management is reflected in that villagers are permitted to enter the park and cut a tree within the park limits for the fabrication of the coffin (Figure 12).

Other elements of customs associated with deaths and burials with links to conservation interests are family tombs where burials take place. Sacred forests and family cemeteries are frequently recruited for conservation interests (Keller 2009) and one
interviewee made such a connection, defining conservation as similar to that of guarding the family tomb, preventing brush or forest fires and not killing animals. Indeed, in Madagascar, conservation is sometimes a tendency to reduce culture recognition to that of *fadys* or taboos, with references to sacred forests and taboos against cutting or killing animals (Keller 2009).

![Figure 13: Outside and interior of sacred forest/family cemetery](image)

The conservation effect of family tombs was visible in attending the burial, as the location was an island of intact forest among agricultural fields, clearly conserved by the locals compared to surrounding land (Figure 13). However, assuming that sacred forests and culture are good for all elements of conservation may not necessarily be accurate. For example, a snake that was spotted nearby during the ceremony was killed due to cultural fears and superstitions surrounding snakes.

There are several other elements of culture, local beliefs, values, traditions, and customs that are necessary to recognize in conservation efforts. One such element that was
visible among responses of villagers is the Malagasy value of having many children. Descendants are seen as a link between past, present, and future; a healthy child is a sign that the ancestors have blessed their descendants with a new life, making many children a mark of a meaningful life (Keller 2009). At least a quarter of the interviewees mentioned either the desire to have many children or the prevalence of population growth that people are becoming more numerous. These comments were often linked to complaints about the park limits and the need for more terrain, illustrating a link between two local values and occurrences. The value of many descendents is therefore augmenting the population size, which is then driving the desire and need for more land to survive. This cultural value of many descendants, despite the problems that it is causing with too many mouths to feed and not enough land to grow the food to sustain them, is representative of other strong Malagasy customs and values that play a role in agriculture, livelihoods, and conservation.

One such example is the importance of rice in Malagasy diets; rice is considered a staple throughout Madagascar, even where it does not grow well (Gezon 2006). In Malio, one villager expressed the desire for engineering of more dams for irrigation so that current manioc fields can be converted into rice fields. The preference of rice agriculture over other staples is linked to the cultural and economic status of such foods. Rice is considered a “wealthy” crop in comparison to manioc, so there is a desire for increased rice cultivation for economic and status purposes. This preference for rice cultivation and its impacts on local wishes and actions reflects that the desire for economic improvement is often a primary determinant of local behavior (Marcus 2001).

Another example of the role played by symbols of cultural and economic importance in local actions that can ultimately impact conservation is that of the significance of zebu
(cattle). In Malagasy culture, *zebu* are representative of wealth and social status and important both economically and socially. Given this significance, the tradition of cattle herding is upheld, even when not entirely practical (Gezon 2006). Conflicts between cattle herding and the park were also mentioned in a couple of interviews, as the need for brush fires or the desire to bring *zebu* into the park to nourish them sufficiently was one conflict seen associated with the park. In visiting the park, there was also evidence of conflicts between herding practices and the park such as patches of burned brush and at one point a herd of *zebu* themselves within the park boundaries. These signs illustrate that the practice of cattle raising is influencing villager decisions regarding respecting park rules.

Overall, many of these findings in Malio reflect the importance of recognizing and understanding the roles that local cultures and traditions play in conservation efforts and interactions with the park. This recognition is discussed by Peters (1998) in a study that suggested use of fertilizer as a substitute for *tavy* (slash and burn agriculture) and ashes to diminish destructive slash-and-burn practices. Although the fertilizer may have been a legitimate scientific substitution, it ignored local heritage, ancestors, and a way of life. Even when within the cultural context there is recognition for the value and importance of conservation, the need for livelihoods is foremost and conservation can be considered a luxury that people are often unable to afford (Marcus 2001). Overall, the findings of this study emphasize the importance of *not* removing locals and their social and cultural elements from analytic frameworks for conservation, as discussed by Gezon (2006).
Challenges

From a variety of standpoints (e.g., locals to park management, conservation to development), the site of Malio in Andohahela National Park faces challenges that could threaten the interests of some, livelihoods of others, and conservation as a whole. One such problem is the distribution or complete lack of tangible benefits, such as in the case of ICDPs (Peters 1998). Some negative social effects of ICDPs have included exacerbation of social differences and the creation of unmet expectations (West and Brockington 2006). Such unmet expectations were clearly present in Malio, with over half of respondents mentioning a promise received for benefits of some sort, whether specific development projects or a general promise. A lack of attention given to development needs was echoed throughout the interviews, with the commonly expressed desire for improved roads, schools, or at the very least financing for such projects, which has not been received.

A part of this problem seems to be the case of the disappearing 50% allotment for villagers. As with all of Madagascar’s National Parks, tourist revenue is to be shared equally between MNP management and local populations (Desire, Interview). The money for locals is managed by COSAP (Committee for the Guidance and Support of Protected Areas), whose members are of the local community elected by commune (Desire, Interview). It is up to COSAP to manage the 50% for development purposes, such as roads, schools, or agricultural projects (Desire, Interview). However, there was no mention of COSAP at least by name by any villagers, nor any recognition of money that is available for development projects. It is not clear whether this lack of awareness of the funds’ location is due to a lack of communication regarding their distribution and use, “misplacement” or corruption, or an overall lack of funds for both sides of the 50%.
Figure 14: Hole in bridge along route returning from Malio, indicative of infrastructure challenges limiting tourism access

Similar such problems were expressed from the point of view of MNP- an overall lack of financial means, due to low levels of tourism and donor funding, and problems of infrastructure such as the poor state of the roads (Figure 14). Visitation is limited by accessibility, as the roads are very poor, for Malio in particular, which requires a 4 x 4 to visit in the dry season (whereas Malio is largely inaccessible during the rainy season). Also, with the finish of the third phase of the NEAP, and ICDPs in 2007, financing has been suspended for development projects in the peripheral villages of the park (Bera, MNP Head of Development and Ecotourism for Fort Dauphin, Interview). In addition to the end of the NEAP, Madagascar’s 2009 political crisis has largely and adversely affected the amount of money available for conservation and development due to the drop in tourism and drop in direct financial support as well (Bera, Interview). Examples of the degree to which Madagascar protected areas have been impacted include a half the number of tourists visiting Ranomafana National Park in 2009 versus in 2008 (according to an informational sign at
Ranomafana). Also, given that approximately 70% of the state budget during normal times (prior to Madagascar’s 2009 political crisis, after which many international donors cut aid to Madagascar) is from foreign sources, it is clear that a drop in foreign aid significantly impacts the available budgets for protected areas.

At the same time that a lack of foreign financing is impacting both conservation and development for the park, foreign pressures also contribute to continued degradation. In Masoala National Park, for example, demand driving outside buyers of rosewood can be considered a much bigger issue than lemur hunting (Ormbsy and Kaplin 2004). In Malio, a similar theme of environmental pressures, external to local inhabitants (precious wood being extracted by non-locals) was discussed by park agents.

*Solutions?*

Overall, problems faced in Malio and other protected areas in Madagascar are a question of finding balance between development and conservation (Peters 1998). It is important to recognize the complexities of resource use and regulation, and their link with community relations and conservation efforts, realizing the varying effects that parks can have in relation to conservation success, from effective conservation to an increase in degradation due to controversy or tourism (Ormsby and Kaplin 2005; Medley 2004). These complexities make it so that any approach attempting to solve problems in conservation or development face not only a variety of interconnected facets (e.g., culture, communication, economics), but also the need for work on a variety of levels from local villages, to park management, to international organizations and donors.
The solution to the question “qu’est-ce qu’on doit faire,” or “what should be done,” may be more complicated than solutions proposed by villagers, but does not render those opinions less important or valid. If “only people speaking out in their own country can actually shape opinion” (Jolly 2001: 1706), identifying these voices and what they have to say can play an integral part in creating solutions that are not perceived as foreign interventions, or as imposed by *vazahas* (foreigners). In the same vein, one suggestion for improving the balance between conservation and development is that international agencies should work from the premise that legitimate owners of the areas in question are the locals and their rights should be legally secured accordingly (Colchester 1996). A similar idea proposed by Peters as to the legitimate rights of locals, demands: “What if local stewardship of the ‘land of the ancestors’ had been encouraged instead of revoked” (1998: 32)? This type of approach seems to be one that is commonly desired by locals who would like to be able to use the land of their ancestors, not be banned, and to follow in the vein of creation of livelihoods through agriculture as their ancestors have done.

Other desires by locals also reflect suggestions regarding protected area management given by Peters (1998) and Marcus (2001), such as the need for adequate compensation for the loss of access to resources to effectively prevent locals from using the forest for resource extraction. Compensation in the form of food and money, as well as development benefits or a share of money from tourism were all ideas proposed by villagers regarding “what should be done.” In addition to direct compensation, the need to reallocate or adjust distribution of benefits is also important, taking into account structural inequalities (Gillingham and Lee 1999; Peters 1998).
Lastly, according to conversations with MNP employees, among the sectors of operation of Madagascar National Parks, conservation and ecotourism currently receive higher priority than environmental education (Desire, Interview). MNP’s website discusses its environmental education efforts, including awareness activities for youth in general, highlighting programs such as one in Madagascar’s capital. For example in one place the website states, “In 2007, just under 9000 pupils and students of Antananarivo attended school classes organized by the Madagascar National Parks in protected areas.” The website also discusses the importance of such education in rural communities but mentions somewhat vaguely “several environmental education programs,” and is not clear as to the location or extent of such programs.

Responses given by villagers regarding the definition, importance, and threats to conservation indicate different degrees of awareness and conception of the park’s efforts. Many responses stem from agricultural livelihoods and backgrounds of individuals, such as the commonly expressed value of conserving water. The connection between conservation of trees and water, and the importance of leaving resources for future generations was mentioned by one individual as having been a concept introduced in a meeting with the Ministry of Water and Forests. According to the Chef de Secteur, such communication takes place during meetings that take place between villagers and park agents as a part of MNP’s environmental education sector. The importance of communication, environmental education programs, and education in general is remarked on by Gillingham and Lee (1999) and Peters (1998). While currently under a diminished priority compared to conservation and ecotourism, environmental education arguably is ultimately incorporated into the overall category of conservation in the degree to which it can impact local people, their interactions with the
environment, and the effectiveness of conservation efforts. The importance of communication has also been highlighted as lessons learned by organizations such as USAID in reports evaluating progress of their plans. According to the Final Program Report, “Maintaining Biological Integrity of Critical Biodiversity Habitats”, produced for USAID, WWF and MNP, among other organizations:

*Communication is an integral part of conservation and the protected area creation process. To be effective, messages must be developed that address the concerns and issues of local people. The objectives, methods, and benefits of conservation must be framed in this manner so that local people can understand in their own terms. When multiple actors are contributing to a single effort, the messages must be coherent. Communication must be ongoing and timely as situations change or more information is available* (MIARO 2009: 159).

A lack of communication was illustrated from both sides, in the case of Malio. Villagers’ lack of understanding or connection to the ideas regarding whom and what values (such as preservation of biodiversity and threatened endemic species) led to the creation and policy system of the national park. On the other hand, there also seems to be a lack of collaboration between the key players behind the park’s existence and methods, and those whose lives are ultimately affected by such actions.

It is relevant to note that while the terms “conservation” and “preservation” can be considered synonyms by their general dictionary definitions and their common usages, there is a distinction between these terms in an academic context. The term *preservation* implies complete isolation of the given resource or area, as left untouched by humans. The term *conservation*, however, implies sustainable interaction between human and environment for
continuation of future usage. This distinction between sustainable management versus setting aside an area and restricting access was probably not communicated in the translation of interviews, and it’s not clear whether such a distinction of concepts even exists for the villagers of Malio. In this case it appears that preservation is the technique being used, as villagers are limited from using resources within the park limits. Perhaps, in this context then, use of conservation, finding a way to promote sustainable use and relationship between the villagers and their environment, is what is needed to address the simultaneous difficulties faced by the people and the environment at Malio, Andohahela National Park.

It is also important to note this study approaches the issue from a Western dominated mindset, and the possibility that the best solutions could potentially come from places currently underused by western methods and organizations. There is the possibility that the best “solution” may be a rethinking of the protected areas system entirely, perhaps finding some other solution that will be sustainable and compatible for all parties.
Conclusion

This study sheds light into perspectives and opinions of locals in one village regarding one of Madagascar’s National Parks that is working toward the goal of conservation of Madagascar’s unique biodiversity. Effects of the park on people who live in Malio were evident, on both their livelihoods and actions, and in the expectations and communications that pass between MNP and the villagers. Pressures from limited resources and the inability to exploit the resources that are protected by the forest are simultaneous problems, which were expressed by differing views in regards to the desirability of conservation. The need for livelihoods was commonly expressed, whether by means of access to terrain, use of the park, a share of fees or tourist money, or implementation of development projects, all of which seem to be lacking in Malio. In addition to recognizing this need, paying attention to the context of the local culture is another important factor to recognize in conservation efforts. In the case of Malio, these cultures and traditions are largely respected, but for some individuals frustration with the park includes rights to ancestral fields and tombs that are not respected, as they are incorporated into park boundaries. It is not clear what impact respecting villager desires would have regarding conservation, particularly as there were some opinions expressed in the village in favor of conservation efforts and its importance.

This research also illustrates the lack of clarity in messages passed between park agents and locals, a lack of awareness by locals regarding the park’s purpose, and the roles of MNP and foreign influences. The lack of comprehension regarding the park, beyond fear of entering it, demonstrates a lack of communication and understanding imparted to those who feel the effects of the park. Improving relations and quality of interactions between locals and
park staff seems to be a necessary step in ameliorating problems encountered by both villagers and park management.

Opinions of villagers in Malio follow similar trends as in surveys conducted in other villages, and other protected areas of Madagascar (Ormbsy and Kaplin 2005; Gezon 2006; Andrew Lees Trust 2009). At the same time, however, localized experiences and thoughts in the context of single villages weave details into the fabric of broad recommendations and give context regarding local culture. Continued investigation, but most of all, open discussion between actors linked to the park (e.g., villagers, park staff, NGOs, foreigners) who have different aims and interests (e.g., conservation of a species, maintenance of a resource, continuation of a livelihood), seems to be a necessary step in achieving some form of balance of costs and benefits for all parties and resources.
References:


Horning, Nadia (2006) Strong support for Weak Performance: State and Donors’ Mutual Dependence in Madagascar. IASCP DRAFT.


APPENDIX
Appendix 1-Interview Questions (Translated into English)

Final Version of Questions (English):

Background Information:
1. Age
2. Gender
3. Village
4. Work
5. Education: # of years attended school
6. # of years lived in current village
   a. from where before living here
   b. Reason to have moved here

I. Perspective about conservation
1. What does the idea of conservation mean to you?
2. How important/ what is the importance of conservation to you and why?
3. Which do you believe is most important, conservation or means of existence for the people, and why?
4. What are the biggest threats to conservation efforts in the park?

II. Your experiences with the park
1. What type of participation have you had with the park?
2. (If individual has had participation) Did your participation change your opinion regarding the park, and if so how?
3. Have you seen any changes in the village or countryside caused by the implementation of the park?
4. Do you think that your opinion of the park would change if the park were closer or farther away from your village?
5. Does living close to the park border cause problems for the people who live there?

III. Your opinion on outside organizations and governments and their effects on the park
1. Do you know who makes the decisions concerning the park?
2. What role to organizations such as governments or NGO's play in the park, conservation and development projects?
3. Do you know that there were development projects associated with the park?
   a. (If yes, and there are projects here): Are the development projects that you've seen desirable? How much say has your village had in deciding the projects?
4. How well do you think governments of foreign countries (such as the United States) are at attaining conservation in their own countries?
5. Is there local knowledge or traditions that are not well understood in the management of the park and its efforts of conservation?
6. Is there communication that takes place between the managers of the park and the people of the village?

* Question III.4 skipped in all interviews, as no development projects have yet been implemented in Malio
IV. Opinion on how well the park works
   1. What do you think is the goal of the park? Why was it established?
   2. Are the goals and methods of the park compatible with those of your village?
   3. In general, is the park effective, as a reserve?
   4. What are the costs and benefits of the park, and are their distribution fair?
   5. What should be done so that the park better meets the needs of both people and the environment?
Appendix 2- Interview Questions (As administered, French)

Final Version of Questions (français):

Information Générales:
1. Age
2. Sexe
3. Village d'habitance
4. Travail
5. Education: # années avez assiste à l'école
6. # années vivant dans le village ici
   a. d'où avant d'habiter ici
   b. raison d'avoir déplacé

I. Perspective à propos de la conservation
1. Qu'est-ce que l'idée de "conservation" signifie à vous?
2. Comment important est la conservation à vous et pourquoi?
3. Lequel croyez-vous est le plus important: la conservation ou les moyens d'existence
   pour le peuple, et pourquoi?
4. Quels sont les plus grandes menaces aux efforts de conservation dans le parc?

II. Vos expériences avec le parc
1. Quel sort de participation avez-vous eu avec le parc?
2. (Si on a eu de la participation avec le parc) Est-ce que votre participation a changé
   votre avis sur le parc et comment?
3. Est-ce que vous avez vu des changements dans le village/paysage causé par
   l'implémentation du parc?
4. Croyez-vous que votre avis du parc changerait si le parc était plus près ou plus loin
   de votre village?
5. En vivant près aux frontières du parc, ça fait des problèmes aux peuples qui
   habitent là?

III. Votre avis sur des organisations/gouvernements de l'extérieur et leurs effets sur le parc
1. Est-ce que vous savez qui prennent les décisions concernant le parc?
2. Quel rôle joue des organisations, comme des gouvernements/des ONG's dans le
   parc, la conservation et les projets de développement?
3. Est-ce que vous savez qu'il y avait des projets de développement qui était associé
   avec le parc?
   *4. (Si oui, et il y en a ici): Les projets de développement que vous avez vu, sont-ils
      souhaitable? Combien d'influence est-ce que votre village a eu en décider ces projets?
5. Les gouvernements des pays de l'extérieur (comme les États-Unis par exemple),
   comment bien est-ce qu'ils atteignent la conservation dans leur propre pays?
6. Est-ce qu'il y a des connaissances et des traditions locales qui ne sont pas bien
   compris par la gestion du parc dans les efforts de conservation?

* Question III.4 skipped in all interviews, as no development projects have yet been implemented in Malio
7. Est-ce qu'il y a de communication qui se passe entre les gestionnaires et les gens de village?

IV. Avis à comment bien marche le parc
   1. Qu'est-ce que vous pensez est le but du parc? Pourquoi était-il établi?
   2. Les buts et les méthodes du parc, sont-ils compatibles avec ceux de votre village?
   3. En général, est-ce que le parc (comme réserve) est efficace?
   4. Quels sont les coûts et les bénéfices du parc, et est-ce que leurs distributions sont équitables?
   5. Qu'est-ce on doit faire alors que le parc mieux atteindre les besoins des peuples et d'environnement?
Appendix 3- Personal Communications/Interviews


Livera Bevazaha: Responsable administratif et financier, FaFaFi Manantantely. Interview. 26 November 2010.
Appendix 4-Malio Zonage Map

Source: PNM Conservation Management planning Status Report 2002