Community Management and Governance of COMATSA-Sud New Protected Area (Ambalamanasy II Commune)

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Community Management and Governance of COMATSA-Sud New Protected Area (Ambalamanasy II Commune)

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SIT Madagascar: Biodiversity and Natural Resource Management
Fall 2017
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Abstract

Community-based natural resource management is an increasingly more popular choice for governments to delegate power back to local communities to conserve the resources they rely on. In Madagascar, where much of the rural population provides for their livelihoods by using natural resources, this governance structure, in cooperation with delegated manager for assistance, presents an opportunity for economic development in cooperation with conservation efforts. This paper aims to better understand the role of community, NGO, and governmental actors in creating and executing community management structures. Through Participatory Rural Analysis and structured and semi-structured interviews, it explores what management transfers look like in practice in the Andapa basin of COMATSA-Sud New Protected Area in November 2017. An evaluation of public perceptions and understandings of existing associations and laws as well as their implementation overall reveals how multi-faceted the issue is. With the framework of good governance principles for protected areas (legitimacy and voice, direction, performance, accountability, and fairness), this paper concludes that communities need more resources, benefits, and autonomy to carry out comanagement effectively.
**Acronyms and Glossary**

*Ala fady* – protected forest

CAPAM – Complexe des Aires Protégées Amboimirahavavy Marivorahona

*Chef fokontany* – village president

COBA – *Communaute de Base*

COE/COS – *Comité regional d’Orientation et d’Evaluation* or *Comité regional d’Orientation et de Suivi*

COGE – *Comité de Gestion*

COMATSA – Corridor Marojejy, Anjanaharibe-Sud, Tsaratanana

*Dina* – local conservation customs written into law

*Fokontany* – lowest level of governmental organization (village)

GCF – *Gestion Contractuelle des Forêts de l’État*

GELOSE – *Gestion Locale Sécurisée*

IUCN – International Union for the Conservation of Nature

MEF – *Ministère de l’Environnement et des Forêts*

MNP – Madagascar National Parks

NAP – *Nouvelle Aire Protégée*

NGO – Non-Governmental Organization

PA – Protected Area

PAG – *Plan d’Aménagement et de Gestion Intégré du CAPAM*

PRA – Participatory Rural Analysis

PGESS – *Plan de Gestion Environnementale et de Sauvegarde Sociale*

*Savoka* – zone allowing for usage with permits

TGRN – *transferts de gestion des ressources naturelles*

VOI – *Vodron’Olona Ifotony* (village forest protection association)

VVS – *Vaomieran’ny Vava Saha* (forest patrol men)

ZAD – *Zone d’Aménagement Durable* (Sustainable Management Zone)
Introduction

As the fourth largest island in the world, Madagascar is a biodiversity hotspot with a very high rate of species endemism and many unique habitats. On the other hand, Madagascar remains one of the ten poorest countries in the world, with a majority of the population living below the global poverty line. Despite the wealth of natural resources, a heavy reliance on raw materials to provide for daily needs, especially in rural areas, has led to widespread deforestation that threatens habitat, lowers quality of life, and diminishes ability to count on a stable future. Paired with political corruption, foreign land grabs, high population growth, and the need for economic development, the outlook for conservation could be grim. However, in the Durban Vision of 2003, Madagascar committed to tripling its protected areas to cover 6 million hectares, or 10% of the island nation, in an effort to conserve its plentiful biodiversity and natural resources.

The rainforest corridor between Marojejy National Park, Anjanaharibe-Sud Special Reserve, and Tsaratanana Integral Nature Reserve (called COMATSA), a nearly 300,000 hectare New Protected Area (NAP) in the northeast of Madagascar, is one of the results of such efforts. As the home to nearly 250 endemic species, including the silky sifaka which is considered critically endangered by the IUCN, forest protection is a top priority here (Rabearivony et al., 2015). The corridor also serves as an important connector of the three protected areas in an effort to reduce habitat fragmentation and increase habitat outside of parks and reserves. However, these natural montane forests are threatened by human activities such as forest exploitation for firewood, construction, planting cash crops, and tavy, slash-and-burn agriculture, for rice fields (Rabetaliana et al., 2003). The individuals living in and around the forests must be able to
survive and make a living, but in a way that allows the forest to provide for them in the future as well as not furthering harm to endangered species.

Figure 1: COMATSA protected area (Rabearivony et al., 2015)

COMATSA was first created by a temporary protection statute in 2006 that was renewed in 2010. It is part of the Complexe d’Aires Protégées Amboimirahavavy Marivorahona (CAPAM), the second-largest forested protected area in Madagascar that is managed by WWF in partnership with Madagascar National Parks (MNP) and The Peregrine Fund. It is one of the projects of the Managed Resources Protected Areas, funded by the UN Development Project and Global Environmental Facility, which focuses on balancing both the conservation of biodiversity and the reduction of poverty through the sustainable use of resources for economic development. The goals of the management plan are to assure the long-term protection of COMATSA’s biodiversity and natural value, promote the rational implementation of natural resource management while still allowing for sustainable production in the interest of the local population,
and contribute to local, regional, and national development. The State appointed the WWF as the *promoteur* of COMATSA in 2015 when the corridor was granted definitive protected area status. Classified as an IUCN category V and VI protected area, COMATSA restricts but does not forbid access to certain zones in the forest for local communities.

The *Plan de Gestion Environnementale et de Sauvegarde Sociale* (PGESS) drafted in December 2014, explains that COMATSA split into 5 distinct usage zones based on how strictly activities are regulated. The conservation priority zone prohibits most human disruption to guard biodiversity and habitat and makes up 71.75% of the NAP. Three other zones – controlled occupation, forest restoration, and agro-silvo-pastoral – make up between 1-5% each of the NAP and allow for limited use. The sustainable management zone (ZAD), areas where natural resource management can and has transferred to the local communities through *transferts de gestion*, makes up 18.15% of COMATSA and will be the focus of this study.

An important aspect of the management in the ZAD is the role of the community in conservation efforts. This is realized through participatory co-management at the *Communauté de Base* (COBA), or lowest village level, by forming VOI’s (community forest management associations) and adopting *dinas* (local customs agreed upon and written into law for conservation and resource management). The *Comité de Gestion* (COGE), made up of a president, vice president, treasurer, secretary, auditor, and advisor, runs the VOI in each village after being elected to the position. Above this level, WWF acts as the *Déléguataire de Gestion* for COMATSA, linking COBA’s to regional government offices and offering the education, training, and support to implement a VOI in the first place. Overseeing WWF’s work, the Comité regional d’Orientation et d’Evaluation or Comité regional d’Orientation et de Suivi (COE/COS) includes representatives from regional, district, and communal government, the Ministry of the
Figure 2: COMATSA usage zoning (PGESS, 2014).
Environment and Forest (MEF), the Office of Tourism, Topography, *Domaine*, and *Gendarmerie*, among others. According to the *Plan d’Aménagement et de Gestion Integre du CAPAM* (PAG) prepared by the WWF in 2015, the COE/COS works on strategic planning, conflict resolution, technical assistance, advice and support for local communities, in addition to ensuring good governance.

![Organizational structure for the co-management of COMATSA (WWF, 2015).](image)

**Figure 3:** Organizational structure for the co-management of COMATSA (WWF, 2015).

Community management transfers delegate power back to local communities for conservation and are generally seen as more equitable systems of natural resource conservation, especially when villagers have historically relied on the resources for their livelihoods. In theory, this method of participation empowers communities to protect their environment for their own development and future, but in practice, community management can be coopted by NGO’s or the government or put a greater burden on villages to implement. The benefits and drawbacks of
community management will be discussed at greater length throughout this paper, but the purpose of this study is only to better comprehend how it works in practice. This project focuses on the experience of individual villages with community management – their governing structure, successes, weaknesses, perceptions, engagement – in order to look beyond written plans and understand their relationship with NGO’s, while recognizing that each village has its own unique context and few generalizations can accurately be made. Through the framework of IUCN’s good governance principles for protected areas (legitimacy and voice, direction, performance, accountability, and fairness), the roles of COBA’s, government, and WWF will be explored in an effort to piece together how management transfers have been enacted and received in COMATSA.

**Background**

*IUCN Classification and Governance Choices*

For this study, COMATSA-Sud was chosen as the study site, specifically Ambalamanasy II in the Andapa basin, generally for its ease of accessibility and due to the size of the entire corridor. As a category V Protected Landscape (compared to category VI COMATSA-Nord), COMATSA-Sud is “A protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values” (IUCN, n.d.). The classification’s primary objective is “to protect and sustain important landscapes and the associated nature conservation and other values created by interactions with humans through traditional management practices.” According to “A tool to help selecting the appropriate IUCN categories and governance types for protected areas,” category V is an appropriate choice
Figure 4: COMATSA-Sud – 80,204 ha (WWF, 2015).

because COMATSA-Sud is a large linking habitat between several other protected areas that has been shaped by a generally positive historical interaction between people and nature and a continued desire to practice resource extraction and expand tourism (IUCN, 2005). One WWF field agent explained in an interview that the difference in categorization between Nord and Sud was due to one mining company’s proposed venture in Sud that was abandoned because of its poor quality and difficult accessibility. Unlike category VI which emphasizes sustainable livelihood uses of the protected area, category V allows more intensive uses such as agriculture, forestry, tourism, or mining. Now, however, it may be appropriate to reclassify the area as category VI like Nord because it places the emphasis on protecting natural ecosystems and using natural resources sustainably in a mutually beneficial way.

For governance, COMATSA-Sud is a co-managed protected area wherein WWF, local populations, and regional government share decision-making authority, responsibility, and
accountability. This choice is fitting when looking at the outline for co-managed governance in the same document as above because historic people-nature interaction and occupancy, environmental services offered, socio-economic value to local and national parties, and range of interested stakeholders are especially important in COMATSA. However, the strongest and most complicated argument for this type of governance is the issue of land tenure. All forests in Madagascar are owned by the State and have been for a long time despite customary local ownership claims, meaning that both public and private ownership is challenged. Since colonization, forests have been set aside as protected and use, restricted, so this round of NAP’s is nothing new as far as claiming land for conservation goes. Though the granting of permanent protection is recent, COMATSA has always been a forest area belonging to the State, not the people. The new idea here is giving management rights back to local communities in an attempt to save money and garner support for forest protection, but only with the help of WWF.

*Transferts de Gestion*

In the nineties, Madagascar began the process of *transferts de gestion des ressources naturelles* (TGRN) through the GELOSE law (*Gestion Locale Sécurisée*) to help rural villages with both conservation for the future and economic development. Later, *transferts de gestion* for the forest were streamlined into GCF (*Gestion Contractuelle des Forêts de l’État*) which offers a less complex mechanism for implementation (USAID, 2007). Both laws provide for communities to enter into a contract with the State to manage the protected forest that they use. The contracts lay out the zoning of the PA, the structure of the VOI, permitting process for forest usage, and enforcement mechanisms, are signed by the mayor of the Commune, the MEF, and a *fokontany* representative, and are evaluated and renewed every three years. Though COMATSA did not become a NAP until 2015, *transferts de gestion* for the forest had been taking place years
before; currently, COMATSA has 67 VOI’s with GCF’s (Andriatahina). On the local level, VOI’s also have their own dinas that enumerate the punishments for prohibited activities in the forest so that infractions can be rectified in the village. Dinas are created based on commonly-held rules for forest usage and are adopted by the community once they are accepted by local authorities and ratified in a tribunal.

As good as transferts de gestion sound to address both conservation and development, their implementation is more nuanced and must be continually evaluated for to ensure they truly reach their goal of empowering local communities and not burdening them. Hockley and Andriamarovololona warn that for TGRN to work, external actors must align their interests with those of the community and follow through on support so that benefits generated are greater than opportunity costs during execution (2007). By attempting to force an agenda on communities to secure forest conservation at a minimum cost, external actors can harm their cause if the COBA becomes unstable when promises are not delivered. Citizen participation has the potential to empower but only if it is truly meaningful in affecting the process: transferts de gestion have the potential to reach only level seven, delegated power, of Sherry Arnstein’s eight-runged Ladder of Citizen Participation because full control of the forest by citizens is not an option in comanagement (1969). In addition, Homewood argues for the constant need to monitor the socioeconomic impacts of community management on the local population to see that the goal of conservation is not met at the expense of community livelihood (2013). She recognizes that the context of any conservation project is complicated and that multiple methods of analysis are necessary to truly understand its impacts. Finally, it is important to consider that VOI projects are almost completely funded through membership and permit fees with some money from fines paid; therefore, they often lack the resources they need to be effective. Chinangwa et al. found
that a majority of households they surveyed perceived no impact of comanagement on their livelihood but were willing to pay yearly VOI membership fees because of perceived future benefits (2016). However, in this case, the stability of the VOI relies on the continued perception of future benefits that must be delivered at some point.

*Good Governance*

Though not perfect, the framework of good governance principles for protected areas was chosen as a means to better comprehend the quality of governance and community participation in the *transfers de gestion* of COMATSA; they will not be used to evaluate if existing governance is good or not because that issue has too many factors than can be understood in three weeks. The IUCN’s good governance principles are legitimacy and voice, direction, performance, accountability, and fairness and are outlined in further detail in Figure 5. Good governance of a protected area must include these elements in order recognize the interests of all key stakeholders and truly allow communities the power to affect actual change, in addition to giving space for ordinary citizens to have realistic expectations be met by others. These principles, and others, are mentioned in COMATSA’s *Cahier de Charges Environnementales* as well as the PGESS and PAG. In using these principles, it must also be acknowledged that they are broad examples and must be “tailored to the specifics of a context and effective in delivering lasting conservation results, livelihood benefits, and the respect of rights” (IUCN, 2013). However, they seem appropriate for this study because governance is a determinant of management effectivenes and efficiency and also decision equity, important factors for the success of realizing community comanagement.
Methods

Based on the recommendation of project advisor Christophe Ndriamizara, the two villages of Ambodivohitra and Ambavala in the commune of Ambalamansy II were chosen as study sites. A third village in the Andapa basin was also considered but decided against in order to spend more time in first two villages when it was discovered that the third did not have a VOI. From November 1 – 20, 2017, field work was conducted in Andapa, Ambalamansy II, and surrounding areas, including six days each in the two villages. Coming down the road out of Ambalamansy II, one encounters Ambavala in about two kilometers and Ambodivohitra in about five. Though they are only about three kilometers apart, the two villages were very different in levels of wealth, understandings of forest protection, and community culture. Also for size, Ambavala has a population of 2,030 and Ambodivohitra has a population of about 5,000.
In each fokontany, Participatory Rural Analysis (PRA) techniques, including community mapping, transect walks, market analysis, and participant observation, were undertaken to better understand the context of each community. The stay is both villages began with calling a community meeting to introduce the researcher and her translator to the population, thank them, and explain the purpose of the study to keep them informed; advisor Ndriamizara also spoke about the mission of the Centre de Services Agricoles (CSA) in helping to provide livelihood alternatives and trainings. In Ambodivohitra, about 100 people attended, and in Ambavala, about 40 people attended, though in both villages, attendance increased when the vazaha (foreigner) started talking. The meetings were also used as a platform to recruit volunteers for a community mapping exercise. Attendees watched the researcher draw a map of her hometown with all the places and things that she thought the most important and were then asked make their own.
Though the intention was to do it as a group, volunteers instead asked for their own poster paper to create the map on their own and return it. A total of 7 maps were returned and can be viewed in Appendix A.

Another useful PRA method was transect walks, completed in both villages with the help of the chef fokontany at the beginning of the stay. The team walked the main north/south and east/west roads while taking GPS points at the limits of the village and any time the usage of the land changed, generally from housing, fields, or forest. Transects were extended into the forest in separate hikes so that the limits of the PA could also be included on a map. In Ambodivohitra, this data was gathered on a hike with COGE and WWF representatives going to put up a plaque marking the boundary of the start of the ala fady. In Ambavala, the extended transect was walked with several paid VVS (VOI patrol men) after the plan to put up plaques there was delayed. On both hikes, GPS points were taken at signs announcing the PA, cases of clear deforestation, and boundary lines along the transect. Throughout the twelve days in the villages, constant participant observation was also recorded from casual conversation, visits to fields and forests, and regarding day-to-day life and gave great insight into the intricacies of the locals’ relationship with the forest. Finally, market analysis of forest and food products was completed to know more about finances and reliance on the land.

To learn more about the public’s understanding and perception of the VOI and forest management, 30 structured interviews were completed in each village (see Appendix B for a list of interview questions). Participants were recruited by walking through the streets of most neighborhoods at different times of day and seeing who was around and had time to talk. Each interviewee was read an informed consent form that explained the purpose of the study, the steps that would be taken to maintain anonymity and confidentiality, and their right to ask questions or
terminate the interview at any point, to which they verbally agreed. Thirty-two questions were asked in Malagasy and interviews lasted between 15 minutes and an hour, depending on the length of responses. Though every effort was made to obtain participants randomly, while paying attention to a balance of genders, a selection bias may have affected the results as people would actively seek to be interviewed or refer friends.

Supplementing these other methods are key stakeholder semi-structured interviews conducted with the chef fokontany and VOI president in both villages as well as various other COGE members, the mayor of Ambalamanasy II, women, a dissenting citizen, and representatives from WWF, MNP, and CSA. These interviews provided a wealth of information on each actor’s role in community management and their relationship to each other. Despite attempts to meet with a representative from MEF, no interview could be scheduled during the study period and should be included in further research because of their importance as actors of the State and sponsors of many transfer and forest projects.

**Results and Discussion**

**Community Context**

From the community mapping exercise, water, schools, churches, and fields are very important to members from both communities. This was clear in the transect walk of each village based on what the chef fokontany chose to point out and emphasize as well. After completing the transect walks, having a picture of the layout of both villages aided in contextualizing their differences and can be viewed in the two maps created from GPS points collected.
Ambodivohitra is a large, quiet village that recently split from the neighboring village to form two distinct *fokontany* because of their size. The two main roads cross in an X and rivers mark its limits on all sides. The village itself is mostly homes, stores, schools, and churches organized in an orderly fashion. It is easy to tell that this village is the top producer of vanilla in the Andapa district based on the visible wealth: many fairly large houses built with concrete, bricks, or sturdier planks and tin roofs, lots of solar panels, electronics, and motorcycles, herds of zebu passing through, and free, easily-accessible wells. Figure 7 shows the view down the main road looking south into the forest; the number of satellite dishes stands out.

**Figure 7: Ambodivohitra Village**
Figure 8: Map of Ambodivohitra Village and Protected Area

From the village proper, it is about a three hour hike with serious elevation gain to the location where WWF and VOI put up a plaque marking the start of the *ala fady* and what is forbidden therein: cutting down trees, *tavy*, and hunting (See Figure 8). The forested area under the management of the VOI is very large, but in this case only one of the routes through it was walked. Outside of the neighboring village’s limits, one enters the forest but does encounter the *ala fady* for another 6 km. The forest in between is known as the *savoka* and planting, logging, and *tavy* are all allowed here with the proper permits. Two new major cases of deforestation were seen on the walk to the limit and the sites were marked with spray paint and GPS coordinates were taken. Though neither instance was inside the *ala fady*, the deforestation was still forbidden and the perpetrators will be sought out and fines assessed. There was also a marked rock giving the message of approaching the restricted area and a sign put up to mark the passive reforestation area which can be seen in Figure 8.
A third case of deforestation was found by the home of a newly appointed VVS patrol man where the signs to be installed were stored. He claimed that his father had done the deforestation, signed an order saying he would not expand the destruction because it was inside the *ala fady*, and began training on VVS duties in the same hour. Because the transect walk was completed with WWF representatives, insights were gained on what exactly their patrols looked like, including several *sensibilisations* (educational meetings) with citizens along the route, taking GPS points and photos, and reporting on the quality of the forest. The GCF from December 16, 2013 was also consulted to ensure proper placement of the boundary sign (see Figure 10 for zoning map).
On the other hand, Ambavala is a long, and narrow village built around the main road, which is always bustling with porters and travelers on their way over the mountains to Doany. Like Ambodivohitra, it is dominated by homes, schools, churches, and fields, but also has many restaurants to accommodate all the travelers, as well as and more forested area within the village itself. It lacked much of the visible wealth of Ambodivohitra: few solar panels or satellite dishes, many smaller houses made of lower quality wood and less concrete, and the use of river water due to the absence of wells. Figure 11 shows the view south down the main road with porters.
Before even exiting the village limits of Ambavala, the forest begins and continues the entire time surrounding the wide, but rather destroyed, road to Doany. On the extended transect walk, Marojejy National Park bordered the east side of the whole route, marked with signs and painted trees soon after exiting the village. Due to its close proximity to Marojejy, the Ambavala VOI only manages 50 hectares of forest on the west side of the route about 6 km hike for an hour and a half from the village limit. No signage of any kind marks the beginning of the *ala fady* here; it is just a small path off the main road that one wouldn’t know was restricted. Though the VOI here had received the same signs as Ambodivohitra, they had not yet put them up as the expedition to do so had been cancelled that day. After following the foot path in through the forest for a half hour, it circles up to rejoin the main road, with no signage at this end either. Figure 12 shows the location of these boundaries as well as one of many sites of deforestation.
that were encountered in the *ala faidy*. Despite walking the transect with three VVS, none of them seemed to notice the blatant destroyed areas or men walking in and out with axes and logs in the forest they managed and shrugged about them when asked. They acknowledged that the activity was not allowed in this area but said that another area was more strictly protected. There may be some confusion as to the zoning of this specific part of the forest, but the researcher was led to believe that no cutting of trees, *tavy*, or hunting was allowed in this ala fady as well because the signs intended to mark it stated as much, yet each VVS returned with a log for firewood. Figure 13 shows the zoning map obtained from part of Ambavala’s GCF dated November 27, 2015 for reference. Because of Ambavala’s proximity to a much more strictly protected area, there seemed to be less of a focus on or distinction of the community managed area because it was so small in comparison and its regulation does not mean much difference for everyday citizens who are restricted from either zone.
Surprisingly, both villages’ VOI also governed and included COGE and general members from the neighboring village. In Ambodivohitra, this was due to split off of the second village into its own fokontany, Antanambao, in 2011 and, therefore, lack of time to create their own yet. Though the chef fokontany of Antanambao says they plan on making their own VOI in the future despite not having any problems with the current situation, the challenge of redistributing the managed forest between the two villages will a tough one to solve and should be monitored, but it would make sense for these two to continue to collaborate. Now, equity is maintained by having one of each COGE position from both villages except the treasurer and switching which village gets projects funded each year. In Ambavala, the VOI is shared with the neighboring
village of Ambodimanga, and both the president and the office are located there though it is further down the road to Ambalamanasy II and away from the forest. This seemed to cause some contention for citizens of Ambavala who felt that they should have more say in the VOI because of their location. The cause of this situation seemed to be that the current president in Ambodimanga, on his fourth consecutive term since the creation of the VOI, was the driving force behind the functioning of the VOI and so the base was there. Here, there is only one of each COGE position though they try to keep a balance between the villages, and the vice president came from Ambavala.

The VOI’s are supported by membership and permitting fees paid to the association which means they rely on recruiting members to fund themselves. By paying a small fee of 1,000 ariary each year, a household can register as a member and receive discounts on permits for logging, burning, and planting. In Ambodivohitra, it was estimated that 80% of the village were members, though no number was certain, while in Ambavala, only 230 members were in the VOI’s membership records despite there being at least 4,000 people between the two villages. This difference could be due to the distance between management and the forest: those who live in Ambodimanga are closer to the management but further from the forest while those in Ambavala are closer to the forest but further from the management center; therefore the interests of both villages do not align. Several individuals cited the distance to Ambodimanga as the reason they had not yet become members. The graphs in Figure 14 display the responses of the 30 citizens in each village to the question of if they were a VOI member or not. Ambodivohitra had a 67% positive response rate, while Ambavala had only 43%, but more women in Ambavala answered that they were not members though their husbands were despite the fact that membership is by household; that is another issue. The cause of more members responding in
Ambodivohitra may be due to what their chef fokontany called a ‘trap’ to obtain members: the VOI there is also responsible for construction permits so individuals must be members to obtain them which boosts membership.

![Pie charts showing membership status in Ambodivohitra and Ambavala](image)

**Figure 14: Responses to being a VOI member**

The other main source of funds is from permits for logging and *tavy* that are required to work in the savoka (Figure 15 explains the fees and number of permits given this year). In both villages, respondents, including the chef fokontany of Ambodivohitra, voiced their discontent that too many permits were issued each year to anyone who wanted them.

<table>
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<th></th>
<th>Fees for logging permit per plank</th>
<th>Number of logging permits issued this year</th>
<th>Fees for <em>tavy</em> permit</th>
<th>Number of <em>tavy</em> permits issued this year</th>
</tr>
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</table>
| Ambodivohitra | Member: 100 ar  
Non-member: 500 ar | 90 | Member: 3,000 ar | 150 |
| Ambavala   | Member: 200 ar  
Non-member: 300 ar | 185 | Member: 5,000 ar | 96 |

**Figure 15: Permitting Fees and Issuance**
The final revenue generator are fines assessed for breaking rules, sometimes up to 500,000 ar depending of the size and type of deforestation; however, by all accounts, these infractions and fines paid happen infrequently. Fines are coupled with having to replant even more trees in the protected area to make up for the destruction. If a perpetrator cannot pay their fines, they are sent to jail, though this happens very rarely as families are usually willing to help out and every effort is made to resolve the problem within the fokontany.

With this money, both VOI’s have built an office headquarters though both are empty at the moment. The majority of structured survey respondents who did know what VOI money was used for said to build the office, while many other respondents did not know. Considering both offices are completed, the funds have now been put to other use. The VOI’s have to pay their VVS 10,000 ar per patrol and buy food for longer expeditions into the forest. They also both keep up a nursery that gives out free trees for members to plant in their fields to provide shade and collect water. In Ambodivohitra, the VOI even offers money to the community to fix bridges or schools. Though the vast majority of individuals surveyed did not know how much money their VOI had, both VOI’s have mechanisms for sharing this information: Ambodivohitra releases and annual statement and Ambavala has a sign on the office listed out finance every few months. According to the treasurer’s estimates as she prepares the reports, Ambodivohitra has 800,000 ar in their VOI, and according to their sign, Ambavala has 1,406,100 ar.

**Perceptions of Forest Management**

Using structured surveys revealed a lot about the public’s understanding, or lack thereof, of the VOI and community management. The most basic question asked about what activities are permitted and forbidden in the protected area. Figure 16 displays the results with a general understanding that deforestation was not allowed in the *ala fady*. A portion of
<table>
<thead>
<tr>
<th>Activity in PA</th>
<th>Ambodivohitra</th>
<th>Ambavala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't do <em>tavy</em> in or near</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Don't cut down trees</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Plant trees</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Don't harm animals</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Don't make logs</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Don't plant crops</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Don't know</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Figure 16:** Number of responses for each rule of using the protected area

also said it was required to plant trees in the forest, probably because the VOI and WWF hand them out and ask people to plant them. Because Ambavala is so close to Marojejy, there may have been some confusion about which forest was being asked about and COMATSA should have been specified more often in the questions which may have provided different responses. Interestingly, only 47% of individuals in Ambodivohitra and 10% in Ambavala agreed that these rules were enforced, which is rather dismal. This may be due to the corruption that some people mentioned whereby friends and families of COGE members were able to break rules without punishment. But, the lack of resources for VOI’s to adequately patrol and actually find the perpetrators is another important factor.

Returning to the idea of participation, Figure 17 summarizes the results of questions about activity within the VOI and shows that around half or respondents attended a VOI meeting, knew the boundary of the PA, or had seen a management plan. The fact that 80% of individuals in Ambavala knew the boundary of the PA is an anomaly probably due to a misunderstanding about the PA in question, as Marojejy is much more clearly marked.
<table>
<thead>
<tr>
<th></th>
<th>Have attended a VOI meeting</th>
<th>Know the boundary of the PA</th>
<th>Have seen a management plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambodivohitra</td>
<td>57%</td>
<td>57%</td>
<td>40%</td>
</tr>
<tr>
<td>Ambavala</td>
<td>53%</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td>Average</td>
<td>55%</td>
<td>69%</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Figure 17:** Summary of Participation Results

Additional data included that almost all respondents thought the community had been listened to in the creation of the *dina*, but that now people were afraid to go into the forest because of fear of retribution. However, nearly all respondents said that forest protection was good for their families and community development and that they wouldn’t make any changes. A healthy forest was perceived as very important for clean water and air and enough rain for crops.

The WWF’s role in forest comanagement is that of supporter and connection. They provide trainings to VOI’s and citizens to manage effectively in the hopes of leaving them autonomous, though that goal seems far off. In many cases, WWF helps to write *dinas* and GCF’s and get the process going for VOI’s. They also provide money for nurseries and technical assistance in patrols. The general consensus from respondents was that they were responsible for doing patrols and taking care of the forest, and they seemed to be regarded positively. Other NGO’s such as Symrise, Bio, and Tsara Kalitao played roles by offering trainings for better and more efficient yields and livelihood alternatives that lessen the pressure on the forest. NGO presence and training attendance was much higher in Ambodivohitra than Ambavala, probably because it is so successful at producing vanilla. Other outside actors, including the mayor and MEF, seemed to take a back seat role in comanagement unless issues could not be resolved in the *fokontany* as is set up to happen.
Conclusion

On the ground, community management has many flaws in addition to its benefits. While it does delegate power to the communities that use the forest and have a close relationship to it, the governance structures are not supported enough to be effective. If anything was learned in this study, it is how complicated forestry law and its implementation in Madagascar is in general, and local communities cannot be expected to do it themselves. The WWF does work to provide the resources for VOI’s but they can only do so much and the reception of the community itself plays a big role as well. The interests of the WWF and government and VOI’s do not always align and there doesn’t seem to be a route to resolve these issues; VOI’s are expected to accept the outline provided, though there is some space for community contextualization. The execution of *transferts de gestion* observed did not exactly line up with written contracts or all of the good governance principles therein, though the purpose of this study is not to evaluate how good governance is.

Many people do not feel that they have a say in the VOI’s decision making because the president and COGE have that responsibility; however, many people also said they felt comfortable speaking at meetings and that their opinions were taken into account, so it’s a toss-up as to whether legitimacy and voice are met. The VOI’s themselves seemed to lack direction from the inside and looked to WWF for much of their vision and planning for the future. Performance is unclear because it is hard for the communities to measure reforestation and know their own effectiveness at this point. The VOI’s seem to try to have accountability by being transparent about funds and delivering to their members, but this is sometimes hindered when other organizations are not accountable to the VOI. Fairness seems to be an issue because of the difficulty enforcing the law, corruption, and non-participation based on gender or schooling.
Overall, governance here meets some but not all principles in practice no matter how thoroughly they are addressed on paper. With time and providing more resources, the outlook for VOI’s can be positive, but right now there is definitely still work to be done by both the community and WWF.

The limits of this study are many but include the time spent in gathering data and its scope. Very little can be truly understood after spending only two weeks in only two villages. The language barrier also presented a problem. Though the translator was incredibly helpful, some things will be lost in translation. It is also difficult to fully integrate into a community and ask sensitive questions without being able to speak the language. Additionally, as an outsider, the researcher was often given answers that respondents thought she would want to hear whether for perceived association with an NGO, fear of backlash, or hope for some benefit in the future. Future study would do well to explore the other VOI’s in the Andapa basin, including Ambodihasina, to learn about their contexts and implementations as they are all different and a bigger picture would allow for more conclusions to be made. The idea of vanilla security and land ownership affecting forest protection is another salient one. It would also be interesting to look at how REDD+, watershed protection payments, and other payments for ecosystem services play into management benefits for communities. Even general financing from international NGO’s and companies would make for an interesting study as there was not time in this one to explore that aspect.
Acknowledgements

This paper would not have been possible without the support of many other people. Most notably, my translator, guide, and friend, Nadege Rinot, was incredibly kind and patient with me and worked extremely hard. It was his warmth and charm that helped us integrate into the communities we visited and start to find the answers we were looking for. We truly were the Dream Team! Another thanks to my advisor, Christophe Ndriamizara, for helping me find and get set up in the villages and making sure I achieved my mission. And, I am extremely grateful to all of the villagers who welcomed my team and shared their homes and thoughts with us. They made this study worth it and I wish all the best to both communities.

Thanks must of course also be given to the hard-working team at SIT who helped make my idea a reality. In a semester full of uncertainties and changes, their level-headedness and adaptability were much appreciated. Barry was so helpful in making me be realistic about my idea and provided many of the resources that were the base of this research. His enthusiasm for the topic, logistical support through location changes, and field visits were very much appreciated. Another logistics shout out belongs to Guy and Mamy who make this program run as smoothly as possible. Also, many thanks to Jim, Rindra, and the entire language team for challenging me and teaching me so much this semester.

Finally, thank you to my family for supporting me to follow my passions halfway across the world and sharing me with other incredible host families.
References


Appendices

Appendix A: Community Mapping Exercises

Ambodivohitra Kobahina
Ambavala
Appendix B: Structured Survey Questions for Villagers

1. Gender
2. Age
3. Occupation
4. Highest level of education received
5. Marital Status
6. Number of children
7. Are you a member of the VOI?
8. Why or why not? What are the benefits or costs of being a member?
9. What are the fees to be a member?
10. What are the rules for managing and using the forest?
11. Are they enforced?
12. Who enforces them?
13. What is the punishment for breaking the rules?
14. Do you know how much money the COBA has and how it is used?
15. When are the VOI meetings?
16. Do you attend? Why or why not?
17. Do members of NGO’s attend?
18. Do you feel that the VOI listens to and values the opinions and ideas of you and your family?
19. Do you feel comfortable speaking at meetings?
20. How often? Why not?
21. Did you feel that the community’s voice and opinions were heard and valued when the dina was created and adopted?
22. How are decisions made within the VOI and who makes them?
23. What has changed in forest management since the creation of the dina and VOI?
24. Do you feel that the current management of the forest in the current state is good for your family and its future?
25. Do you feel that the current management of the forest currently is good for community development? Why?
26. Have you attended any livelihood trainings? Who taught them?
27. Have you changed anything based on what you learned?
28. What do you know about the role of the WWF and other NGO’s in forest protection?
29. Is there anything you would change about the management of the forest?
30. Do you know where the boundary of the protected area is?
31. What resources do you use the forest for?
32. Have you seen a management plan for the COMATSA protected area?
Appendix C: Key Stakeholder Interview Questions

1. What role does your organization have in the management of COMATSA?
2. What does this look like on the most local level?
3. What role does your organization play in the creation of dinas?
4. What has been the response from local communities to your work?
5. What governance principles did you think about before implementing the management plan?
6. How much did local opinions and culture influence the management plan? How are they currently taken into account?
7. What does your organization do to communicate decisions and plans to local communities?
8. What is the vision for the management of COMATSA?
9. What role do you have in enforcement?
10. What resources do you offer to local communities?
11. How is performance measured?
12. How is your organization held accountable to its role?
13. How does your organization hold others accountable?
14. What problems have you run into and how did you address them?
15. Is there anything else you’d like to add?
Appendix D: List of Interviews


VOI President 1. November 7, 2017. Ambodivohitra, Andapa, Madagascar. (VOIP1)

Falitiana. WWF Field Agent. November 8, 2017. Ambodivohitra, Andapa, Madagascar. (Falitiana)


Chef Fokontany 2. November 11, 2017. Antanambao, Andapa, Madagascar. (CF2)

Women’s Association President. November 11, 2017. Ambodivohitra, Andapa, Madagascar. (WAP)


VOI Vice President. November 14, 2017. Ambavala, Andapa, Madagascar. (VOIVP)


VOI Secretary. November 16, 2017. Ambodimanga, Andapa, Madagascar. (VOIS)

