

Understanding forest clearing and conservation policy in Madagascar: the case of the Makira Natural Park

Summary

This research explores the current status of Makira Natural Park, and analyzes the relationship between land uses to a community management strategy. We examined how forest management contracts were set up and administered, and then assessed the efficacy of these contracts with respect to institutional effectiveness and reduction of deforestation, the key driver of biodiversity endangerment in Madagascar. The approach taken in this research is a combination of semi-structured interviews, group interviews, participant observations, and land use mapping. We first present a qualitative narrative of the processes of establishing forest management transfer. Second, we evaluate the forest management contracts in Makira Protected Area relative to Ostrom (1990) framework for management of common property resources. Third, we present data from household surveys showing the prevalence of deforestation in forest management contract areas.

Keywords: Forest Management Transfer, Conservation, Deforestation, Protected Areas, Madagascar.

Introduction

In the past two decades community based natural resource management (CBNRM) has emerged as a widely used conservation strategy globally. The shift to CBNRM from more top-down forms of conservation emerged from observations of top-down management failures, where collective resistance to protected areas undermined conservation objectives. It also was supported as a more ethical way to relieve overburdened state agencies tasked with policing and managing an increasing number of protected areas.

In Madagascar, similar to the conservation paradigm trajectory occurring elsewhere in the world, the first protected area established during the colonial period were strict nature reserves. Madagascar drafted the National Environmental Action Plan (NEAP) in early 1990 which ended with heavy criticism concerning the lack of attention to local communities. Locals were seen as continuing to constitute a direct threat to natural resources, despite so-called benefits that the Integrated Conservation and Development Programs (ICDP) aimed to deliver to local communities, instead of participants in the management process (Gezon,

1997). GELOSE (*Gestion Locale Securisée*) legislation was then enacted to delegate the management responsibility and legal tenure over community protected areas to local communities (commonly called COBA, *Communautés locale de Base*). GELOSE was generally seen as cumbersome and presented a significant obstacle for communities to engage, due, for one to the difficulties with completing all of the necessary paperwork, given low literacy rates within the rural population. A simplified version, GCF (*Gestion contractualisée forestière*) decree was established in 2001, called the Forest Management Contract law. GCF was created to provide a more flexible and simplified route for local communities to engage in forest management.

Reduction of deforestation has been a key focus of conservation efforts in Madagascar since colonization by the French in 1895. Madagascar now has little more than 15% native forest cover remaining, sometimes heavily fragmented with subsistence agriculture and relatively small farms. Various studies agree that agricultural land use practices interfere with the current conservation policy. Additionally, many resources within the biodiversity rich forests are used by villagers for local consumption, for house, boat and furniture construction materials, foods, firewood and medicines. There is a strong need to devise new solutions to remedy the conflict between agriculture, community resources uses, and forest biodiversity conservation.

Methods

We document the application of the new GCF law in a large, biodiversity-rich region in Northeastern Madagascar, the Makira Natural Park, which includes a Community Management Zone in which the GCF is applied. Using mixed sociological methods, including semi-structured interviews, group interviews, and participant observations. From 2009 to 2011, we conducted a detailed land use survey of 8 sites in the eastern side of the MNP. A total of 135 households were visited and a full land use survey was conducted for each household. Households were revisited a year after for a follow-up to identify if households followed on their forest clearing plan. In addition, 5 other communities were observed during the process of setting up the community management arrangement

Framework of analysis

We first examined how the forest management contracts were set up and administered, and then assessed the efficacy of these contracts with respect to institutional effectiveness (Ostrom, 1990) and reduction of deforestation, the key driver of biodiversity endangerment in Madagascar (Harper, Steininger, Tucker, Juhn, & Hawkins, 2008; Kremen et al., 2008)

The Case of Makira Natural Park

Makira Natural Park (MNP) is located in the northeast of Madagascar and is currently the largest terrestrial protected area (PA) of the country. The MNP project alongside the local community and the Forestry Department has agreed to focus on sustainable management to meet the long term needs of the local populations for natural resources while maintaining forest cover. The goals are to reduce the human pressures in these so called green belt zones (community zones) where Forest is cleared primarily for slash and burn agriculture (tavy) to grow rain-fed rice.

MNP is expected to contain up to 50% of Madagascar's unique biodiversity, including the highest diversity of lemurs in all of Madagascar's PA (Holmes, Ingram, Meyers, Crowley, & Victurine, 2008). The Community Forest Management Zone, created under GCF, started in 2004 with 10 communities; in each case, land and natural resource management rights are transferred from state control to local communities under a GCF contract. Most of these lands have already been affected by deforestation.

The management of MNP is delegated to the Wildlife Conservation Society (WCS), an international non-government organization based in New York, and the park's funding comes primarily from a payments for ecosystem services scheme, the Reducing Emissions from Deforestation and Degradation Plus (REDD+) project (Bidaud, 2012; Holmes et al., 2008), which finances biodiversity conservation projects through the sale of carbon credits for avoided deforestation (Bidaud, 2012; Gardner et al., 2011).

Results and discussions

MNP has engaged in a vast implementation of GCF in the peripheral zone of the PA. The stated goal of GCF in MNP is to manage forest resources sustainably in order to maintain the ecological balance in the region. Under both the GCF and GELOSE legislation, the

Malagasy government agrees to give local communities the management decision over their land and resources after fulfilling certain requirements. Despite the legal framework support of CBNRM, communities are not able to fully make management decisions concerning their resources. Instead of local knowledge and interests driving the establishment of CBNRM, communities are forced into trying to enforce protectionism instead of sustainable resource use. It is clear for the case of Makira, installing GCF is way to curtail forest clearing, not transferring management authority to local communities. This practice is questioned by many actors, and is called non-voluntary participation in community conservation.

Our land use surveys shows that 91% percent of households declared that they planned to clear new forest or secondary forest when asked in 2009. About 80% of these households carried out that decision in 2010 across all communities. Slash and burn agriculture is practiced by an average of 74% of households to grow rain fed rice from 2009 to 2010 across all communities. The average forest cleared per household per year is 0.57 hectare, but that value varies from 0.18 hectare in Anjahely to 1.2 in Sahajinja. The average forest plot size owned by a household is 0.88 hectare, (minimum at 600 m² and maximum 6.6 hectares). However, there is no indication that rural households have or intend in the future to stop clearing forests, despite the rules and regulation of GCF. The village of Anjahely (1 out of 11) showed the strongest drop in deforestation practices for the sampled year. In contrast, an adjacent GCF in Sahajinja-manonga had the highest per household forest clearance and 100% of those who claimed they would clear land in the next year followed through with their decision to clear the land. This phenomenon happens in 2009 and 2010, despite a WCS field agent based in the village to assist the COBA in better management of their resources.

While in theory, CBNRM is a good solution to continuing conservation when a government is weak or overburdened, it is not guaranteed that the COBA in Makira or other parts of Madagascar will have better management of the natural resources and will eventually stop the massive deforestation. Forest clearance is part of the agricultural system in the wider Makira area and conservation organizations need to recognize that forest clearance will likely not change without a major shift in approach addressing the problems driving deforestation.

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