

Empowering pyromaniacs in Madagascar: ideology and legitimacy in community-based resource management

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Abstract:

Development practitioners frequently rely on community-based natural resource management (CBNRM) as an approach to encourage equitable and sustainable environmental resource use. Based on an analysis of the case of grassland and woodland burning in highland Madagascar, this paper argues that the success of CBNRM depends upon the real empowerment of local resource users and attention to legitimacy in local institutions. Two key factors – obstructive environmental ideologies (‘received wisdoms’) and the complex political and social arena of ‘community’ governance – challenge empowerment and legitimacy and can transform outcomes. In Madagascar, persistent hesitancy among leaders over the legitimate role of fire has sidetracked a new CBNRM policy called GELOSE away from one of its original purposes -- community fire management -- towards other applications -- e.g. community management of forest exploitation. In addition, complications with local governance frustrate implementation efforts. As a result, a century-long political stalemate over fire continues.

INTRODUCTION

The move to enfranchise local communities in matters of environment and development characterizes much current work in international cooperation. Development and environment agencies alike look for experts in ‘community development’ or ‘local governance’ and seek to include some facet of ‘community-based natural resource management’ (CBNRM) in their programs. This paper, through an analysis of a policy seeking to devolve the management of prescribed burning and wildfires in Madagascar, identifies two major factors which can confront CBNRM programs. These factors are first, outdated yet persistent ideas in the form of

environmental policy narratives or ‘received wisdoms’, and second, the thorny questions of power and accountability in ‘community’ governance. Together, these factors threaten the real empowerment and institutional legitimacy necessary for successful CBNRM, leading to significant variations in actual outcomes.

Interest in CBNRM arose out of the growing international consensus on the importance of local and community participation in development and conservation (e.g. Ghai and Vivian 1992; Wells and Brandon 1993; Western and Wright 1994). This consensus was based on both ideas of equity and efficiency. CBNRM sought to undo the mistakes of past top-down conservation efforts out of a sense of justice and out of political necessity. It also represented a realist strategy to move towards more effective and sustainable conservation, and beyond failed coercive conservation measures that led to non-compliance, resistance, and unsustainable programs. This new consensus was deeply felt in Madagascar, informing conservation projects across the island (Bertrand 1999; Durbin and Ralambo 1994; Marcus and Kull 1999; Peters 1998). Environment and development agencies saw in CBNRM the key strategy -- if not the ‘only possibility’ (Rajaonson et al. 1995: 6) -- to solve environmental problems in an effective and equitable manner.

Not all forms of participatory conservation and CBNRM are equal. They vary widely in terms of what powers, rights, and responsibilities are vested with local communities (or parts of local communities). Ribot (1999) proposes that successful decentralized management requires the enfranchising of local populations. To be enfranchised, real decision-making power must be vested in legitimate community institutions. Decision-making power comes through *empowerment*, which occurs when the decentralization of resource management gives not just responsibilities, but also rights, to local communities. The *legitimacy* of community institutions is rooted in the notion of popular acceptance – that the affected public accepts that leaders be granted certain rights and responsibilities, accepts that rules are fair and just, and accepts that certain institutions are the proper venues for activities such as management or dispute settlement.¹ This acceptance is more likely if leaders and institutions are accountable to local people (Agrawal and Ribot 1999; Ribot 1999). Without empowerment and legitimacy, CBNRM would serve only to expand top-down power and state control, or to give power to some at the expense of others, risking ineffectiveness due to non-compliance and resistance.

It is important to note, however, that legitimacy and empowerment are not simple keys to successful CBNRM, but instead complex, dynamic elements constantly being re-negotiated. This paper demonstrates how two dynamic factors challenge the enfranchising of rural resource users. First, dominant ideas about environmental change and management, such as policy narratives or received wisdoms, can shape the implementation of CBNRM by creating obstacles to the empowerment of locals and by threatening the locally-perceived legitimacy of policies. Second, attaining legitimate CBNRM policies and institutions is complicated by the limited accountability of local government institutions, and by the tensions and negotiations inherent in the application of the term ‘community’. In the Malagasy case, these factors deeply influence a recent decentralized renewable natural resource management policy. This policy is best known under the acronym GELOSE, for *gestion locale sécurisée*, or secure local management. As a result of a persistent anti-fire ideology dating back to colonial foresters, the state requires locals to comply with anti-fire legislation that carries little legitimacy, and hesitates to empower

¹ Legitimacy is not in itself necessarily good, for it can be established not just through the ballot-box or consensus, but also by inheritance, precedence, or force. All the same, legitimate leaders, rules and institutions are more likely to function better.

peasants through GELOSE in the sector of fire management. In addition, weak local governance institutions and problems with establishing legitimate ‘community’ institutions plague efforts to implement the new policy.

Planned interventions in development, conservation, and governance rarely go exactly according to plan. Contrary to the ‘governmentality principle’, plans and policies do not have direct, predictable effects upon society. Yet they still ‘do something’ in the sense of Ferguson (1994: xv). For example, Sivaramakrishnan (1997) shows how the planned colonial appropriation of forests in Bengal was not a straightforward process. Because it encountered regional ecological diversity, regional political and historical contrasts, and tensions within the colonial state over conflicting purposes, the result was not a uniform system of forest conservancies, but a ‘rich and systematic variation in the regime of restrictions’ (ibid.: 89). Scott (1998) explains the near-inevitability of the derailment of large-scale, modernistic planning as a result of the simplification implicit in the process, which does away with the local, situated knowledges and practices that, it turns out, are key to sustainable and efficient functioning. Powerful plans and ideas are constantly being subverted by situated practices; humans are creative and constantly carving new complexities into grand simplifying ideas. In this study, we will see that this is exactly what is happening to Madagascar’s GELOSE.

THE CASE OF FIRE IN MADAGASCAR²

The fire problem

As in much of the tropics, Malagasy farmers and herders rely on fire as a key agropastoral tool. Probably half of the island’s vast grasslands are fired annually, as well as some 1000 to 3000 km² of cleared forest. Periodic natural fire is inevitable in ecological zones characterized by a lengthy dry season, such as much of highland and western Madagascar. However, almost all fires are lit by the Malagasy for specific management purposes. Grassland burning serves to maintain pasture resources, inhibiting bush encroachment and stimulating an annual green flush of new shoots. It is crucial in managing fuel loads in order to prevent wildfires. Fires also help control tick and locust populations. In agricultural areas, farmers rely on fire as an effective, efficient, and inexpensive way to prepare fields for plowing, to clean field and canal edges, and to fertilize fields. Finally, in forest zones, fire is used to prepare shifting cultivation fields. In areas of intensive land-use and dense population, farmers restrict burning. All the same, fires do sometimes escape control or become ignited accidentally (or with criminal intentions). Each year, some houses, cropfields, woodlots, and orchards are damaged (Dez 1968; Kull 2000b; Rajaonson et al. 1995).

Colonial leaders condemned most fires as backwards techniques that degraded and threatened forests and plantation resources. They were joined by foresters and naturalists concerned with deforestation and soil degradation -- concerns heightened on Madagascar due to its many unique species and relatively recent settlement (Kull 1996, 2000a). As a result, the colonial and post-colonial states criminalized burning through rhetoric and repression. Legislation forbade all dry season firing outside of an onerous authorization process, and these rules were enforced by the Forest Service (*Service des Eaux et Forêts*) with the help of the gendarmerie. The peasants, due to their reliance on fire as an agropastoral tool, resisted the

²Based on 18 months of research (1996-1999) in highland Madagascar, including participant observation, interviews of farmers and officials, and archival work. Work focused in one major field site, the village of Afotsara (pseudonym) between Anstirabe and Ambositra, and four secondary field sites.

state's restrictions. They took advantage of fire's inevitability, easy anonymity, and self-propagation, burning out-of-sight and letting fire fires run their own course. They also took advantage of contradictions and hesitations within the state, including sympathetic local-level officials frustrated by the vast terrain and limited resources. As a result, peasant resistance has been successful, leading to a political fire stalemate that has outlasted a century of continually-renewed anti-fire campaigns and legislation (Kull 2000b).

In the early 1990s, booming conservation efforts re-focused attention on fires, leading to increasingly vocal calls to stop the burning. The state refused to give fire authorizations in much of the highlands. The peasants, due to their livelihood-based need to manage their lands, continued burning as they had before.

The resulting impasse is manifested in the deeply entrenched inconsistencies, exceptionalisms, and corruption of current fire politics. For one, exceptions are the rule. A few communities have gotten 'exceptional' Forest Service burn authorizations annually for decades, while most have never even applied. In addition, enforcement since early colonial days has been thwarted by the state's limited resources, by the vast terrain, by administrative foot-dragging and internal disagreement, and by peasant resistance. For each illegal fire that has been enforced (often those with specific property damage), there were dozens, hundreds, or thousands that were not seen or ignored. Finally, corruption is endemic. Bribes are used to avoid prosecution, and enforcement of laws sometimes equates to a form of extortion by state officials (Kull 2000b).

The solution: GELOSE

In the mid-1990s, analysts working to improve natural resource conservation on the island recognized the impasse over fire, noting that a century of repressive politics had failed (Bertrand 1994, 1999; Rajaonson et al. 1995; Rakotovaio Andriankova et al. 1997; Razafindrabe and Rakotondrainibe 1998). In addition, they recognized the growing international consensus on the importance of local and community participation in conservation (e.g. Bertrand 1994; Leisz et al. 1994; Razafindrabe and Thomson 1994), and that the decentralization of state power was another international trend reflected in Malagasy politics (Agrawal and Ribot 1999; Henkels 1999). As a result, in a series of workshops, reports, and new laws, the government, together with a host of international environment and development organizations, pushed for a new CBNRM policy, now called GELOSE. To be applied to forests, pastures, wildlife, and water, thus by extension to wildland fires, this policy speaks of a new non-repressive era. GELOSE is to promote better resource management through local-level management, rule-setting, and enforcement, leading to better environmental stewardship and thus vastly-reduced fires.

GELOSE grew out of a 1995 masterful proposal for the decentralization of fire and renewable resource management (Rajaonson et al. 1995). The proposal self-consciously placed itself in opposition to a century of failed policies, presenting a nuanced argument for the devolution of fire management. It accepted some burning as a legitimate resource management tool, discussed the legal and political logic and logistics of decentralization, and laid out a detailed program for its application. Key elements of the proposal were quickly transformed into legislation, becoming law 96-025 on September 10, 1996, and acquiring the nickname GELOSE. During 1997 GELOSE was incorporated into the new national forestry policy (Law 97-017 and Decree 97-1200) and the second phase of the Malagasy environmental action plan (PE2), a major coordinated effort by the Malagasy government, foreign donors, and international NGOs.

The GELOSE law proposes the creation of three-way negotiated contracts between the state (represented by its technical branches such as the Forest Service), the *commune rurale*,³ and a voluntary association of residents or resource-users known as a *communauté locale de base* (CLB, basic local community) over the management of any renewable natural resource, including forests, rangelands, or lakes. In GELOSE contracts, communities would regulate resource use through *dina*, locally-sanctioned rules.⁴ The CLB's legal rights to the resource in question, usually owned by the state, would be secured through a relative property rights registration process (*sécurisation foncière relative*, SFR). The contract negotiations would be coordinated by an 'environmental mediator', a person hired out of a state-certified pool of specially-trained professionals. The process for establishing each GELOSE contract includes some 22 steps.⁵ The plan was to implement contracts in 400 rural communes during the five years of the PE2, and to all 1,100 communes by the tenth year.

It was only in year 2000 that the GELOSE law received the first two installments of its long-overdue enabling legislation (*décrets d'application*). Despite the delay, GELOSE contracts (or contracts in the style of GELOSE) have been implemented in a few cases, always in conjunction with a foreign-sponsored project. Gauthier and Ravoavy (1997) surveyed twelve GELOSE-style contracts in 1997; Maldidier (2001) counted a dozen official GELOSE contracts by the end of 2000.

EMPOWERMENT AND IDEOLOGY

The decentralization of resource management involves the transfer of rights and responsibilities to local communities. The character, and perhaps success, of CBNRM depends upon what mix of rights and responsibilities is decentralized. On the one hand, if local levels

³The *commune rurale* is currently the primary rural political unit. Run by a mayor and councilors, with appointed assistants and secretaries, a rural commune governs an average of 5000 to 10,000 people split into five to ten *fokontany*. The mayor is elected by universal suffrage among independent candidates to a five year term; the mayor appoints *fokontany* presidents. A *délégué* appointed by the provincial authority also serves the communal level, sometimes competing with the mayor for influence (R. Marcus, pers. comm.). The communes receive a budget from the central government and administer voting, schools, projects, markets, and health centers in conjunction with the national technical services.

⁴*Dina* are rules and decisions at the local level defining acceptable behaviours and stipulating fines (Henkels 1999; Marcus 2000; Rakotavao Andriankova et al. 1997). Traditionally, *dina* are local socially-guaranteed agreements; since 1960, *dina* have also had formal legal status. *Dina* have taken on particular significance in recent years, as conservation and development actors seize on the concept -- perhaps somewhat romanticizing *dina* as timeless and traditional (Tsing 1999) -- in order to implement participatory aspects of their programs.

⁵The steps of the GELOSE process, according to an information sheet from the *Office National de l'Environnement*, 1998: (1) Informational campaign in rural communities, (2) Official request by the CLB at the communal office, (3) Legal registration of the CLB as an Association or NGO, (4) Submission of the request to the commune, (5) Posting and announcement of the request by the commune, (6) Verification of the legality of the CLB, of its proximity to the resource, and of the legality of the proposed resource transfer, (7) Communal decision by the end of the announcement period, (8) Choice of the mediator, (9) Contacting stakeholders (including government agencies), (10) Creating a workplan, (11) Mapping of the resource and the land surface, (12) Establish needs for technical studies, (13) Preliminary technical studies, (14) Create long-term goals, construct scenarios, define access and use rights, (15) Evaluate economic management tools and management structure, (16) Additional technical studies, (17) Perform the SFR operation (a multi-step process to establish resource tenure security for the CLB), (18) First draft of contract and management plans written, (19) Creation of community *dina*, (20) Mediator verifies the termination of the preparatory process, (21) Signatures, (22) Speech and ritualization of the contract (e.g. ceremony with cattle sacrifice).

only gain responsibilities, and no or few rights, then state power grows. The state penetrates further into society, and the decentralization process, often in spite of its best intentions, becomes an expansion of bureaucratic power (Ferguson 1994). The state co-opts local labor and time to its purposes. Neumann (2001) describes such a process in Tanzanian wildlife management, whereby village 'self-surveillance' is harnessed to accomplish central state goals. Ribot (1999) documents a similar process in the context of Sahelian forestry policies, whereby much of the decentralization process served to just transfer work, not power, to local levels, affording the state more micro-control. Likewise, Gauld (2000) describes a case in the Philippines, where forest-based CBNRM policies are shaped by bureaucratic efforts to maintain centralized control. In such cases, decentralization will most likely be subverted, encountering resistance or spawning inconsistencies and corruption.

On the other hand, if local levels gain rights commensurate with their responsibilities, they are empowered. Such rights, or powers, can include adjudication, decision-making, access to resources, control over finances, and the ability to tax (Ribot 1999). This expansion of real local power is the theoretical aim of CBNRM. It would enable more equitable, efficient, and institutionally-sustainable management of renewable natural resources.

In the case of GELOSE -- at least for the management of vegetation fires in grasslands and woodlands -- not enough rights are transferred. As in many CBNRM efforts elsewhere (e.g. Gauld 2000; Sundar 2000), the state still has the deciding vote. This is because Law 96-025 requires that GELOSE contracts and resource management *dina* conform with existing legislation and rules. Thus, a community's decision to burn must still fall within the stipulations of restrictive 1960 vegetation fire laws, and must (if during the dry season) still receive an 'exceptional' authorization from the Forest Service. In this case, no rights have been transferred. For GELOSE to seriously change fire policy and empower communities, the entire suite of fire and forestry laws must be reformed as well.

A crucial factor that may block the empowerment of local communities is the persistence of strongly-held ideas that cast doubt upon local natural resource management techniques. A strong anti-fire received wisdom dominates discourse throughout Madagascar, especially among urban elites, the state, and external agencies. This received wisdom sees grassland and woodland burning as inherently destructive if not backwards, causing soil degradation, deforestation, and economic decline (Kull 2000a, 2000b). As a result, policy-makers are hesitant to transfer rights to local communities that would become empowered to burn as they saw fit.

Received wisdoms (Leach and Mearns 1996), policy narratives, and other discourses help to shape the discursive field within which discussion occurs, and to frame problems such that the answers serve to justify the actions of the interested groups (Ferguson 1994; Escobar 1995). They are mobilized by different actors for different purposes (Fortmann 1995; Li 1996; Tsing 1999). The anti-fire received wisdom in Madagascar, like other crisis narratives, e.g. Sahelian desertification or Himalayan degradation, is remarkably persistent precisely because it is a good story (Roe 1991) and it serves the purposes of powerful groups (Leach and Mearns 1996; Blaikie 1999). There are material interests involved as well, such as (in the case of Malagasy fire), the historical awarding of bonuses to foresters for enforcement, or the current use of anti-fire laws to extort bribes. Received wisdoms, or dominant meanings, are of course constantly being subverted, always being contested). Yet in the Malagasy case, the peasants have little power to subvert the dominant narrative, faced with the strong interests of foreign donors and a national government eager to secure their funds (Kull 1996). As a result, when the architects behind

GELOSE proposed CBNRM for fire and other renewable natural resources, they found their original intentions co-opted by the anti-fire received wisdom in three ways.

First, the received wisdom has, over the past century, created a legacy of rules tightly restricting the use of fire. As noted above, GELOSE contracts must conform with previously-existing legislation. These rules -- which restrict free pasture burning to the wet season and to villages gaining 'exceptional' authorization during the dry season -- would conflict with real community-based management, setting what to the peasants are unacceptable limits on burning. The Forest Service would neither physically nor ideologically be prepared to authorize the tens or hundreds of thousands of small, opportunistically-ignited, and not strictly-controlled grassland and woodland fires that the peasants would desire.

Second, the received wisdom frames the ideological and discursive space within which GELOSE develops. An illustration comes from discussions I had in 1999 with two separate Forest Service officials regarding the use of fire as a tool to manage pine woodlots. Fire is a useful tool for managing certain species of pine to facilitate regeneration or to clear undergrowth. The foresters knew of this use of fire, they had read about it in a forestry journal, and they recognized that the peasants harnessed these techniques. Yet they said that the Forest Service could not authorize such fires, for it would be setting a bad precedent. Thus, the received wisdom limits their range of possibilities.

Another example derives from when the Interior Ministry asked the *communes rurales* in 1996 to create *dina* governing fires, inspired by the ongoing discussions about CBNRM. Mayors around the highlands complied. In the case of Afotsara, my primary field site, the 1996 communal *dina* on fire states that all adults who see a fire must fight it, and that :

'Persons caught voluntarily burning the hills, with lawful proof, will be fined 10,000 Ariary and will be brought to the authorities; if the fire was accidental, the fine will be 5000 Ariary.'

This *dina* was not subject to public discussion; most peasants – including the new *fokontany* (village) president – claimed not to know of it. Almost none of the communal *dina* around the highlands include viable enforcement mechanisms, and thus enforcement is rare. They are stricter than the national legislation, make no concessions to peasant agropastoral needs, and are accordingly ignored. Because of the power, dominance and framing effect of the received wisdom, however, the *dina* could hardly have been otherwise.

Yet another example of the ideological framing effect of the received wisdom is the list of specific resources included in the GELOSE mandate. As proposed by Rajaonson et al. (1995), GELOSE was centered around vegetation fires (largely pasture fires and slash-and-burn cultivation). However, by mid-2000, not a single GELOSE contract involved pasture lands. In fact, the text of the proposed applicatory decree describing the renewable natural resources to which GELOSE may be applied includes forests, forest products, phytogenetic resources, reforestations, watersheds and their biologic resources, marine resources, lakes, marshes, tidal

areas, and springs, but not pastures and grasslands.⁶ Perhaps, pressed by the received wisdom, lawmakers shied away from allowing managed fires.⁷

Third, the anti-fire received wisdom stifles communication. Due to the received wisdom, the state has long criminalized and denounced vegetation burning, showing little understanding of its usefulness and sometimes even confusing pasture fires with slash-and-burn forest cultivation. After 100 years of repression and anti-fire rhetoric, everyone knows that the government does not like burning; everyone can recite the destructive effects of fire, even in the most remote corners of the countryside. As a result, peasants gain no confidence in the state, and communication stops (Kull 1999; Mainguet 1997). When confronted by the state over fire, farmers would rather politely blame passers-by, repeat anti-fire slogans and nod in agreement than explain in detail why they break the law. As Fairhead and Leach (1996: 116-7) note,

‘The interface between villagers and external agencies, rooted in the colonial encounter and developed over antagonistic circumstances, has rendered the expression of local environmental experiences highly problematic. Faced by direct questions about deforestation couched in the environmental services’ terms, villagers tend to confirm outsiders’ opinions which are, by now, long familiar to them. Agreeing (or not denying) visitors’ views can be a polite way of coping with extractive or repressive encounters, or to maintain good relations with authoritative outsiders who may bring as yet unknown benefits; a school, road or advantageous recognition to the village, for example.’

In this way, received wisdoms and legacies of repressive policies can generate what Klooster (2000: 284) has called a ‘baggage of resistance’ including non-communication and non-compliance. Local points of view only slowly filter up to national decision makers. Top-down communication is hampered as well: in Madagascar, most peasants believe that the government forbids *all* fires except those in existing crop fields; few know that the legislation allows them to burn pastures freely from December to April or that dry season pasture fires could officially be authorized, at least according to the legislation. As a result, the success of GELOSE -- which must accept some burning in order to succeed, never mind to foster dialogue between the contractual parties -- is threatened. While peasants may sign a GELOSE contract in the hopes of securing outside funding, they will continue to burn as before, out of sight, ‘accidentally’, and anonymously.

LEGITIMACY AND ‘COMMUNITY’

CBNRM programs engage with extant local institutions (power structures, forms of governance, and rules) and are likely to establish new institutions. The success of CBNRM depends upon the legitimacy of these institutions to the actors involved. Yet legitimacy is not

⁶*Projet d'Arrêté relatif aux ressources naturelles renouvelables pouvant faire l'objet de transfert*, July 1998. This proposed decree, however, reaffirms Article 2 of GELOSE (Loi 96-025) which does specify rangelands.

⁷While GELOSE has so far essentially ‘abandoned’ pastures in favor of forest and water resources, by mid-2000, Cooperation Française was planning a pilot pasture-management GELOSE agreement in a village near Toliary, while a protocol of agreement on pasture-oriented GELOSE agreements was ‘in the works’ between the ONE (National Environmental Office) and the Ministry of Animal Husbandry (C. Malidier and O. Pierson, pers. comm., July 2000).

simple, as institutional formation, empowerment, and legitimation occur within the complex arenas of social relations, culture, and regional contexts. The CBNRM process can never be a surgically-perfect installation of new systems. Instead, it will be a constantly negotiated and subverted process that leads to transformations in power and social relations that may or may not be intended or useful, e.g. the capture of CBNRM benefits by village elites, or the shifting dominance of local social groupings. Below, I highlight the problems of achieving legitimacy in both rules and institutions, giving special attention to the problems of ‘community’ institutions.

Legitimacy applies not just to institutions and leaders, but also to rules. In Madagascar, what is legal is often not legitimate; what is legitimate is often not legal (Rakotovao Andriankova et al. 1997). The restrictive national fire rules, for example, are legal but far from legitimate or just in the minds of the peasants. Likewise, legitimate local fire management systems -- e.g. informal, opportunistic burning strategies negotiated by the co-users of a pasture (see case studies below) -- are highly illegal in the eyes of the state due to the anti-fire received wisdom.

The key to legitimacy, according to Ribot (1999), is locally accountable representation. Leaders, rules, and institutions must be accountable to the people. Current Malagasy local government institutions have a somewhat ambiguous role with little accountability. Popularly elected communal mayors must both carry out state mandates at the local level and communicate local needs upwards; more often than not they apply a watered-down version of the state mandate and rarely communicate local needs upwards. In addition, the delineation of responsibilities between the mayor and the state-appointed *délégué* is often vague.⁸ As such, the legitimacy of the communal government is shaky. Decision-making in rural communes lacks capacity and finances, is chronically inefficient, and is hardly democratic or accountable (Madon 1996; Marcus 2000). Communal *dina* often reflect top-down priorities and carry little weight among the local populace, as shown in the example of the 1996 fire *dina* above. In addition, local leadership roles are troubled by corruption (Klooster 1999; Kull 2000b; Razafintsalama and Gautschi 1999). As Marcus (2000: 217) notes, ‘leaders often see it as a perk of the job that they are free from the laws they are supposed to uphold.’ Several mayors have allegedly interpreted the new GELOSE legislation as giving the mayor’s office control of local resources such as forests, then used this control for personal profit.⁹ CBNRM cannot just empower extant local authorities, for this ‘does not automatically resolve issues of equity, representation, and accountability, nor does it constitute community participation’ (Ribot 1999: 14).

Legitimacy can be threatened as institutions evolve in response to social and political changes. In particular, when CBNRM projects seek to harness extant local institutions, results vary. The *dina* is a prime example. The state has attempted to incorporate the *dina* rule-setting institution of ‘traditional’ law into modern law, just as conservation projects have sought to use *dina* to involve local people in resource management (Henkels 1999). As a result, the character and legitimacy of *dina* changes. In Afotsara, residents distinguish between *dina fototra*, basic *dina* which grow out of local, *fokontany*-level¹⁰ consensus and which have legitimacy, and *dina kaominaly*, which are those created at the level of the commune and often carry little legitimacy.

⁸R. Marcus, pers. comm.

⁹Interview, Forest Service officer, July 2, 1999.

¹⁰The *fokontany* is the unit of governance below the *commune rurale*; it is the lowest official political unit and serves, on average, 400-1200 citizens. This unit held greater powers during the Second Republic (1975-1992), when the *fokontany* president was popularly elected. The position is now appointed by the mayor. The president signs letters of birth, death, sale, and permission to hold reburial ceremonies.

The anti-fire *dina* of 1996 were top-down appropriations of the institution of *dina* which failed, and which may have tarnished its legitimacy.

The most problematic institution harnessed by CBNRM projects is the 'community'. The operationalization of this concept while still maintaining legitimacy is challenging. Social scientists have identified four problems with the idea of 'community' as used in CBNRM. First, communities are not harmonious and homogenous as often depicted; instead they can be 'contentious, unstable social groupings' (Tsing 1999: 172; see also Klooster 1999; Leach et al. 1999; Sundar 2000). Across the globe, all societies are differentiated -- by wealth, gender, ethnicity, caste and so on -- and the access, use, and control of natural resources varies and is contested between these groups. For example, womens' access and use of resources often differs sharply from mens' (Leach 1995; Schroeder 1997). The wealthy and the poor struggle over the control of resource access (Peluso 1992; Suryanata 1994). Even among peasant communities which outwardly seem homogenous, communities display large variations in wealth and very heterogeneous patterns of resource use; these differences have important influences on the character of land use and thus the politics of CBNRM (Coomes and Burt 1997).

This is certainly the case in Madagascar. Malagasy society is highly stratified (Kottak 1980; Pavageau 1981), with divisions based on a latent pre-colonial hierarchy of nobles, commoners, and slaves, and reinforced by wealth, ethnicity, age, and gender. In Afotsara, the richest 20 percent of households utilize 50 percent of the rice fields, while 70 percent of the cattle are in the hands of just 10 percent of the households. One quarter of households are classified as *andevo* or *nirahina*, that is, descendants of slaves, and this stigma influences village social and political life. Community leaders are all *andriana*, descendants of nobles. Within such 'communities', diverse interests and group rivalries may preclude harmonious management. For example, across much of highland Madagascar, families who plant pine trees on state land complain of others deliberately burning their seedlings. The fire-starters defend their actions, saying that the pines are a degradation of communal pastures (which need to be burned for maintenance), and implying also that they resent the land-grabbing intentions of tree-planters on state lands (trees are a first step to acquiring formal land title).

Second, defining the bounds of 'community' can be troublesome. The most frequent definition used in CBNRM projects is geographical, that is the people living in a certain territory (Gauld 2000). In contrast, Leach et al. (1999: 230) view 'community' as a 'more or less temporary unity of situation, interest, or purpose.' Geographic proximity may be crucial to resource use, but it hardly guarantees unity of interest. The GELOSE statutes never commit to a precise definition, calling for community institutions to represent people unified by interest but also open to membership by all territorial residents.

Third, communities are far from being 'traditional' or timeless. Those things considered timeless in 'traditional' Malagasy communities, such as *dina* village pacts, the *ray-aman-dreny* (elders), or mutual agricultural aid, are actually institutions that have undergone much change. *Dina* were already formalized into the official legal structures of the country in 1960, and have come to represent top-down decisions by communal leaders as much as traditional culturally-based community pacts. The *ray-aman-dreny* have likewise seen their authority change over the years, due to e.g. the economic and political changes since colonialism and the power of the churches. Mutual agricultural aid, based on local institutions for labour recruitment and organization, has diminished in the face of increased state and market influences (Kottak 1980; Vérin 1992).

Fourth, images or discourses of ‘community’ can be mobilized by different actors to achieve certain goals, like to defend access to resources (Li 1996). For example, development organizations have harnessed romanticized images of traditional, sustainable local communities to create the political space to defend the communities from state incursions. In rural communities, individuals likewise claim and defend access to resources by using images and discourses of community, e.g. appealing to ties of kinship. Neumann (1995) calls these actions strategic essentialism, where people assert ethnic, indigenous, or community identities in order to expand claims on resource (see also Pulido 1996).

In sum, ‘community’ is a term used on the one hand to refer to a heterogeneous grouping of people involved in multiple, overlapping, historically- and regionally-produced institutions; but on the other hand to strategically refer to these groupings as organic and relatively homogenous. The danger occurs when the naïve, strategic representation of ‘community’ is used to operationalize decentralized resource management (Li 1996). Then, planners risk developing CBNRM that ignores intra-village divisions and favours hardly extant institutions (see Tsing 1999 on the search for romanticized ‘tribal elders’). The result is CBNRM that is not legitimate to the part of the village that is excluded (women, ex-slaves, silk harvesters, etc.).

Giving resource management rights and responsibilities to communities guarantees neither legitimacy nor fairness. The development of CBNRM will lead to some failures or stand-offs, to some successes, and in many cases, to transformations in local social relations. In Imamo, in central Madagascar, a lack of social cohesion -- due, to a large extent, to caste differences and corrupt leadership -- blocked the application of one GELOSE pilot project (Razafintsalama and Gautschi 1999). Individual interests and lack of cohesion also blocked participatory community land-use planning efforts around Montagne d’Ambre National Park in northern Madagascar (Mainguet 1997). Elsewhere, ‘elite capture’ (Klooster 1999), where elites use their power to control the benefits flowing from CBNRM, is a common result. For example, in the Malagasy Middle-West, the wealthiest villagers are cattle owners and dominate both the valley-bottom rice fields and local decision-making. They allow upland communal pastures to be burned, and are mute to protest from the poorer farmers who depend on those very lands for their minimal cropfields (these farmers would benefit from protecting the grassland from fire for a few years to enhance soil fertility). As Gezon (1999) notes, changing environmental management practices directly reflects the dynamics of local social relations.

It remains to be seen whether GELOSE can facilitate legitimate institutions. GELOSE is predicated upon a tripartite contract between the state, the *commune rurale*, and a new institution known as the *communauté locale de base* (CLB, basic local community). For one, as discussed earlier, the communal government itself faces questions of legitimacy. Furthermore, the creation of a new institution, the CLB, is potentially troubling. According to the legislation,¹¹ CLB are to be officially registered NGOs, ‘a voluntary association of individuals unified by the same interests and following the rules of communal life’. Membership is to be open to all residents of the territory of the CLB, ignoring the potential for fractious intra-community politics. In practice, CLBs would take shape as, for example, an association of villagers interested in exploiting a certain forest resource (e.g. wild silk, or timber), or an association of cattle-owners for the management of specific common pastures. The attraction to locals is the CLB’s anticipated legal access to and management of the resource. The CLB’s legitimacy depends upon the case, including the personalities, the politics of its formation, and its accountability to

¹¹ *Projet de décret relatif aux communautés de base*, July 1998.

all affected locals. In the Afotsara fieldsite, located near an endemic forest formation known as *tapia* woodlands, a CLB association was founded in mid-1999 for woodland wild silk collectors. The villagers saw money flowing to a nearby village -- where outside funds supported a silkworm breeding house, a tree nursery, and a modern spinning loom -- and wanted the same. However, more than half the village refused to join, citing mistrust in the leaders (members of the village elite) and missing funds. Establishing the legitimacy of the CLB can become a difficult task for GELOSE, for without legitimacy, the door is open for resistance, discord, and arson or sabotage.

SUCCESSFUL COMMUNITY-BASED FIRE MANAGEMENT

The above analysis suggests that successful CBNRM requires attention to empowerment and legitimacy. It also demonstrates how powerful and persistent ideas about resource management, as well as the socio-political complexities of 'communities' and institutions, can transform outcomes. These conclusions are further demonstrated by a survey of successful community-based fire management in highland Madagascar. Four main categories of functioning (more or less) CBNRM can be identified with respect to fire management in highland Madagascar. Each case has its particularities, but in all of them, locals are empowered to make and act upon decisions -- sometimes because they correspond with state goals, sometimes because they are beyond the state's reach. Their decisions are legitimated because the people involved agree upon the parameters of the problem (they are not, for example, constrained by the anti-fire received wisdom), and because the 'community' institutions are more or less accepted and accountable. The examples follow below.

Hamlet-level fire management

Fires burn frequently in Afotsara, the primary field site. However, one local hamlet is conspicuous in its fire control. In contrast to the oft-burned pastures and woodlands typical of the area, this hamlet is ringed by overgrown fields, bushy thickets, and several shady pine woodlots with raspberries in the understory. When the hamlet was founded in the mid-1880s, the area was completely covered by grassy pastures, except for a small riparian forest. Why fires no longer burn in the hamlet's little valley was clear to residents:

'We control the fires, limit them. When a fire approaches from the east or west, we fight it, stop it. Everyone is family here, we all know each other, so we control the fires. There are few strangers who pass this way; besides, everybody knows where not to burn.'

They limited fires in the immediate vicinity of the hamlet to improve soils for fallow fields, to grow woodfuel and lumber, and to protect their houses from wildfires.

A different hamlet of Afotsara, perched in the middle of a vast pasture zone, had protected a nearby slope from fire for two years. They did their best to keep uncontrolled pasture fires from burning that slope, for they intended to harvest the thicker grass for roofing material and to burn for compost fertilizer. A third hamlet protected a grassy slope sandwiched between ricefields and dryland crop fields. It had not burned in seven years, while other nearby open slopes burned almost annually. The slope was being kept as a reserve for roofing grass. Such hamlet-level fire control was echoed in a case study near Ambatolampy, in the central highlands.

Here a woman told me ‘We are all family in this area, therefore we talk to each other and limit the fires’; a man down the path stated that ‘there are lots of people watching’ for unwanted burning. Kepe and Scoones (1999) describe a similar case in South Africa, where families protect patches of land from fire to grow thatch and firewood. Clearly, in these situations the close-knit situation of rural life, with families living their lives in proximity, with overlapping material interests (in roofing material, woodfuel, etc.), allows them to set unwritten rules about fire control. Created by inter-related hamlet members and with clear purpose, these rules carry plenty of legitimacy.

Fire management in intensive zones

Land-use intensification, whether due to population pressure or market opportunities, leads to tighter management of fires. In most cases, uncontrolled wide-ranging fires are squeezed out of intensive zones (Dez 1966; Kepe and Scoones 1999; Kull 2000b). Case studies in highland Madagascar demonstrate this pattern. ‘Behazo’, a village near Ambositra, simply has no land to burn, for in this densely populated zone, crop fields and orchards cover almost the entire area. ‘Tsimay’, near Ambatolampy, stopped burning because a hillside of wattle woodfuel became more profitable than a hillside pasture. This pattern is repeated in the many areas of charcoal and construction wood production across the highlands (Bertrand 1999). In such situations, where population pressure or economically-driven intensification change land use, fire becomes unacceptable to the majority of the population. Then, controls on burning have popular legitimacy, and community-level fire rules and traditions change (c.f. Gezon 1999). Due to changed community perspectives on fire, repressive national fire legislation becomes relevant and is enforced, not ignored.

Free-burning extensive pasture management

Another fire management system that carries legitimacy and that can realistically be implemented and enforced is opportunistic free-burning pasture management. Most common in peripheral zones far from government influence -- e.g. in the vast grasslands of the Middle-West -- this management system also exists in the open hilltop pastures of more central locations. While the threat of enforcement has perhaps changed the timing and frequency of fires, fires here still burn freely most years.

Free-burning pasture management is characterized by a village consensus that a certain area be managed as pasture. Herders light pasture renewal fires opportunistically when conditions permit,¹² letting the fires run their own course. The goal is more or less a complete burn-over, in order to stimulate the growth of fresh grass shoots and to fight bush encroachment. The default condition is to burn; individuals or hamlets wishing to reserve certain areas from fire must make the effort themselves -- spreading the word not to burn a certain spot, directly fighting fires which threaten houses or crops, or creating fire breaks. In these frequently-burned zones, however, fires rarely present much danger due to the lack of fuel-buildup. Fires are less intense, and often stop at pathways, streams, and crop field edges by themselves. When fires do damage private property, the owner has little moral ground to complain, for the onus of protection falls on him or her. This was the case in Afotsara, when an August 1998 pasture fire torched a small shelter built near some mountain-top cassava fields. Instead of protesting, the owner accepted the loss with fatalism.

¹²Opportunistically in several senses -- when it is sufficiently dry, when herders happen to be in a particular place, and when enforcement is unlikely, like at night, during locust passages, or during elections (Kull 2000b).

Fire management with outside pressure

A final example touches much closer to the current GELOSE process. In the periphery of Andringitra National Park, a mountain reserve at the southern tip of the highlands, an Integrated Conservation and Development Project run by the World Wide Fund for Nature (WWF) is working with the Forest Service and local communities to create pasture and fire management zones. The Namoly basin, north of the park, was divided into eight pasture management zones (*kijanan'omby*) by the project and villagers. The cattle-raisers have designated leaders for each *kijanan'omby*. Each zone has a pasture burning plan, typically encompassing late dry season fires in the lower pastures near rice fields, and late rainy season fires in higher zones. The dry season fires require approval from the Forest Service; the late rainy season fires are free and also serve as fire breaks for the park. The system, just in its infancy, appears to be working somewhat; in May 1999 the Namoly basin was one of the only areas in the highlands sporting scars from late rainy season fires.

Two factors clearly contribute to the potential success of this system. One, the WWF project team accepts fire as a legitimate management tool, and thus the project and the pasture management system establish a level of trust and legitimacy with the people. Two, the externally-funded project carries great political and financial weight. Not only can the project print out GIS-based maps of pasture management zones, but more importantly it has the power to ensure enforcement and implementation of the management plans. In 1996, it pushed through a region-wide collective fine for an illegal fire within the park, showing it was serious. The long-term sustainability of this system, once project funds dry up, remains to be seen.

CONCLUSION

The GELOSE case demonstrates several ways in which the key variables of empowerment and legitimacy can block or transform CBNRM projects. Empowerment of locals is restricted, in part, by the continued weight of a powerful anti-fire received wisdom, and legitimacy is threatened by CBNRM's entry into the complex arena of 'community' institutions and power. In contrast, the above cases of community-level fire management work for they address precisely these obstacles. They ignore the anti-fire received wisdom and accept fire as an appropriate resource management tool in specific agro-pastoral contexts, thus addressing material interests and gaining popular support. In addition, the institutions which make the decisions have sufficient legitimacy and power to do so -- whether they are family-based hamlets, broader villages with more-or-less common interests (and, in the intensification example, with a state that will back them up in case of conflict), or a powerful foreign-funded project that, by accepting fire, may have gained some legitimacy. In each case, the fire management system was specific to both the local agro-pastoral context and the local institutional and social situation.

The challenges presented by CBNRM are many, yet so are the opportunities. If locals are empowered to manage specific natural resources through legitimate and accountable institutions, then CBNRM programs stand a chance of achieving equitable and sustainable resource use. If, however, CBNRM programs lack empowerment, if only responsibilities and not rights are transferred to the local level in a top-down attempt to expand control, the result may be resistance, corruption, and unsustainability. If CBNRM programs ignore the dynamics of community institutions, the result may be inequitable or contradictory to the goals, such as non-compliance, elite capture, or reshuffled local power relations. Finally, if CBNRM programs

intersect with powerful and contradictory environmental received wisdoms, the result may be a changed focus if not outright blockage.

The Malagasy GELOSE process may not meet the goals originally conceived by Bertrand (1994) and Rajaonson et al. (1995): to end a century-long peasant-state impasse over landscape burning, and instead seek to manage fires through a sustainable, flexible, and regionally-contextualized decentralization of resource management. Several factors threaten the successful implementation of GELOSE to fire management. These include its limited empowerment of communities (forcing them to comply with extant restrictive fire legislation), the obstructing role of the anti-fire received wisdom, and complications in harnessing weak yet dynamic community institutions (e.g. the *commune rurale*, *dina*, and CLB).

GELOSE is most likely to succeed in cases where resource management does not conflict with extant laws or the anti-fire received wisdom, where community issues are addressed carefully, and where the financial benefit is worth the hassle. Pilot efforts indicate that the more successful GELOSE contracts may come in the forestry sector, where community institutions are given exploitation rights to certain forests (Maldidier 2001). This is due to donor interest in forest management, its lack of conflict with the anti-fire received wisdom or extant legislation, and the palpable financial interests for the local community of forest resources. Establishing GELOSE contracts is a lengthy twenty-two step process, with intrusive expert studies into the local resource, and in which significant costs accrue to the villagers, such as mediation costs. Where financial interests are lucrative -- e.g. timber producing forests -- or where donors may expedite or underwrite the process -- e.g. near parks, reserves, and forests -- the process will be more successful. As a result, GELOSE will not adequately address the management of pasture and woodland fires, and the general pattern of fires across the island, which has hardly changed in the last 100 years, will continue more-or-less unaltered.

This is an example of how development interventions can evolve or change from their originally stated intentions (Ferguson 1994; Scott 1998). CBNRM programs by necessity engage with complex ideologies about resource management and environmental change. They also enter directly into the complex socio-political arenas of exercising power and shaping institutions. Together, this allows for outcomes that are characterized by rich variation, some utter failures, some successes, depending on how questions of empowerment and legitimacy are addressed in widely varying regional historical and environmental contexts. This variation is well illustrated by both the above cases of non-GELOSE successful fire management, and by the experience of GELOSE to date. Each GELOSE contract is different, reflecting the dynamics of local actors, resources, and politics. More tellingly, the momentum of GELOSE (while not the specific policy itself) has led to the creation of nearly thirty CBNRM institutions across Madagascar. They vary in characteristics due to the actors involved (e.g. the different agencies and foreign donors), the resource in question, and local institutional and environmental histories. These include 'pre-GELOSE' agreements, park periphery management pacts like at Andringitra, as well as alternative CBNRM structures such as 'GPF' or participatory forest management (Maldidier 2001).

The key change in GELOSE is its hesitancy to approach fire management, one of the original goals. To succeed in addressing the Malagasy 'fire problem' as originally intended, the state must accord local communities sufficient freedom in fire management, and the onerous bureaucratic process for GELOSE should be simplified. More critically, however, the government must accept fire as a legitimate resource management tool. J. Andrianampianina (1998: 9-10), the recent Director General of the *Office Nationale de l'Environnement*, wrote that

‘People still talk of pasture fires as a necessary evil and of *tavy* slash-and-burn fires as a subsistence method..... I however, think all fires should be completely banned. Fires are a destructive force, and there will be no agricultural improvement while fires destroy the vegetation.’

Andrianampianina’s concern with peasant ‘pyromania’ belies a widespread view in government and urban society that all fires are bad and lead inevitably to degradation. This persistent anti-fire ideology prevents local communities from taking action or even communicating honestly about the advantages and disadvantages of fire, for fear of losing their political favor or losing outside funding opportunities. It also creates legal and ideological obstacles to the creation of GELOSE fire management contracts.

The most realistic stance is that there has always been fire in Madagascar, and there always should be. In a vast country with an extended dry season, fire is both a natural part of landscape processes as well as an integral cultural landscape management tool. In certain areas, fire is squeezed out through intensive land-use. However, in extensive land-use zones, fire is an efficient and inexpensive means of pasture, woodland, and cropfield management. In these areas, if humans do not burn, nature eventually will, especially if years of protection allow fuels to accumulate.

If a community were allowed to manage its own pastures, with the blessing of the central state and without the restrictions of top-down rules or the anti-fire rhetoric, the result might be as follows. In less-dense areas the social consensus would be to allow pastures to burn. Since enforcement would not be feared, villagers may openly discuss ahead of time which areas needed burning when, and fire starters might stick around to monitor the flames. Communities would probably require few formalities -- at most to inform village leaders ahead of time; burning would likely take place in an opportunistic, casual style. More strict management would only occur when problems arise: a roof catches on fire, a pine plantation is torched. In these cases, the *ray-aman-dreny* and the disputants would convene to determine a resolution. If the problem was serious or irresolvable, they would call upon higher levels of government to assist. Several such cases might lead to changes in the community consensus. For example, if enough people began to desire to claim portions of the once-common pasture to grow trees for the urban charcoal market, the consensus would change (not without contestation and conflicts, of course) and acceptable burning would likely be more limited. GELOSE is a step in this direction of ideal community management, but it still has a long way to go, especially due to the power of the anti-fire received wisdom and the complications of community governance.

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