

Madagascar aflame: landscape burning as peasant protest, resistance, or a resource management tool?

Christian A. Kull

This is author-archived pre-print version of:

Kull 2002 Madagascar aflame: landscape burning as peasant protest, resistance, or a resource management tool? *Political Geography* 21 (7): 927-53.

The final definitive version is available via Elsevier at www.sciencedirect.com or via this direct link [http://dx.doi.org/10.1016/S0962-6298\(02\)00054-9](http://dx.doi.org/10.1016/S0962-6298(02)00054-9)

ABSTRACT

Madagascar has a fire problem: despite a century of anti-fire repression and rhetoric, farmers and herders continue burning about half of the island's grasslands and woodlands annually. The state criminalized burning due to concern that fire destroys the island's natural resources and blocks development. Many peasants, however, rely on fire to maintain pastures and woodlands, prepare cropfields, control pests, and manage wildfires. The resultant conflict over natural resource management provides a convenient window into questions of peasant protest and resistance, and into strategies of power in resource management. Peasants have succeeded in continuing to burn unimpeded, leading to a century-long stalemate over fire, by taking advantage of first, contradictions and hesitations within the state, second, the natural character of fire (its inevitability, easy anonymity, and self-propagation), and third, the ambiguity between fire as explicit protest and fire as a livelihood technique used at politically opportune moments. This research demonstrates that models of domination (or criminalization) and resistance used to understand peasant-state relations in natural resource management are incomplete without, first, a consideration of the complex and ambiguous spaces between domination and resistance, between state and peasant, between protest and livelihood practices, and second, attention to the political-ecological context including resource ecology, rural livelihoods, and political discourse.

ACKNOWLEDGMENTS

This research was made possible by the NSF (SBR 98011046), the EPA (STAR Graduate Fellowship), and a Rocca Scholarship. Thanks especially to Nancy Peluso, Raymond Bryant and three reviewers, as well as to Oliver Coomes, Michael Watts, Louise Fortmann and Lynn Huntsinger.

INTRODUCTION

Wildland burning is frequently seen as a forceful means of rural protest (Prochaska 1986; Kuhlken 1999). In Madagascar, where fires annually burn perhaps half of all grasslands and a thousand square kilometers of moist forest, rural protest is often listed as an important contributing cause. In 1971, the *New York Times* reported that “fires of anger scar Madagascar” and linked wide-ranging bush fires to peasant unrest (Mohr 1971). In 1994, Malagasy pop star Rossy suggested in his song “Resa Babakoto” that farmers burn the hills to attract the attention of the government to their poverty and hunger in the face of billions spent on nature conservation. A focus on fire as protest, however, runs the risk of over-emphasizing and glamorizing this view of fire-starters’ motives, at the expense of understanding the complexities of a long-standing struggle over appropriate resource management.

Protest fire is just one facet of the century-long conflict over land burning in Madagascar. Strong forces within the colonial and post-colonial states have repeatedly criminalized burning due to concern that fire threatens the island’s natural resources, causing deforestation and soil degradation and blocking development. Many farmers and herders, however, rely on fire to maintain pastures and woodlands, control wildfires, prepare cropfields and control pests. As a result, despite 100 years of government anti-fire efforts, little has changed, and fires burn wild each year (Dez 1968; Rajaonson et al. 1995; Kull 2000b, 2002b).

In this paper, I demonstrate the mechanisms by which the state criminalized fire, and how the peasants resisted this criminalization. I show how the exercise of power over natural resource management is fundamentally shaped by the multivalent character of the state and by ambiguities in the nature of the resource. I argue that resistance is hardly a simple matter of peasant protest, but instead a multifaceted livelihood-oriented strategy that grows out of the political-ecological context as well as out of the contradictions inherent in state domination. Fire-setting peasants have a crafty ability to move in the interstices and ambiguities of what on the surface seems like a uniform government anti-fire stance, harnessing fire’s own ambiguities to create and defend their livelihoods, meeting their grassland and woodland management goals.

ON ANALYTICAL CATEGORIES

The state-led regulation of certain natural resource management techniques has often taken the form of “criminalization” (Hay et al. 1975; Thompson 1975; Peluso 1992; Neumann 1998). Criminalization is the negative redefinition of a resource management practice, such as fire, in order to assert specific claims to resources. Resistance is the attempt – through actions and words – to forestall or fight criminalization, to protect one’s rights and impede interference, in order to assert alternate claims.

As analytical concepts, resistance and criminalization (or, more broadly, domination) form a dialectical couplet, just like other dual, opposing categories such as “state” and “peasants”. Much post-structural work has pointed out that such categories are not rigid, but two intertwined parts of a larger category. Domination and resistance are part of a larger field, that of the exercise of power. Practices of resistance cannot be separated from practices of domination; they are inextricably linked, mutually constitutive, and produce complex entanglements of power. Dialectical relationships are continually reshaped in processes of contention and struggle as situations unfold, and all powerful systems – e.g. domination, or the state – are constantly being subverted (Sivaramakrishnan 1995; Klooster 2000; Sharp et al. 2000).

Just like criminalization and resistance, the state and civil society (or peasants) are intertwined concepts in which there is room for opposition, complex negotiations, as well as

complementarity (Gupta 1995; Sivaramakrishnan 1995; Sundar 2000). The state is not monolithic, but a complex “constellation of practices and institutions constituted through struggles over rights, legitimacy, and authority” (Moore 1996: 140). It is full of competing personal, institutional, and political agendas representing different parts of civil society.

For example, a frequent manifestation of intra-state disagreement is between foresters and the civil administration (Sivaramakrishnan 1997; Bryant 1997). In Madagascar, administrators were caught between anti-fire foresters and populist leaders (Dez 1968). As a result, Malagasy foresters accuse the civil court system of not upholding forest or fire laws by dismissing some cases and assessing light penalties against others.¹

States are not only horizontally diverse; they are also vertically diverse. The “state” that a rural villager sees – a poorly paid forester, some young *gendarmes*, the locally elected mayor – is quite different from the “state” represented in a government minister. Field agents of the state must answer both to villagers as neighbors as well as to their superiors, and they often have their own interests in mind (Neumann 1998; Sundar 2000). This can modify how laws are enforced and thus the character of criminalization. For example, dispersed peasants cannot argue against a Ministry, but they can make life difficult for field foresters. In turn, state agents may operate for their own personal goals, catching fire-starters but letting them off with bribes much cheaper than the official fine. Such petty corruption is widespread around the globe (e.g. Prochaska 1986; Gupta 1995; Robbins 2000). For example, one farmer told of when some passing *gendarmes* caught his father with an escaped cropfield fire; they made him pay 20,000 Malagasy francs and a bottle of rum. He called the *gendarme* “hawks”, for they circle in the sky around fires, ready to steal some prey.²

We have seen that state and civil society are intertwined and that criminalization and resistance are part of the larger field of the exercise of power. Moore takes the analysis of these analytical categories a step further, in a way that is particularly useful to studies of natural resource conflicts. He argues that these concepts should not be seen simply as abstract two-way modalities, but should be analyzed through a “realpolitik of place and practice” (Moore 1998: 347 and 351), paying attention to how individual actors, moving within specific ecological, cultural, historical, and political landscapes, negotiate multiple fields of power.

While on the surface the story of fire politics in Madagascar may be one of state criminalization versus peasant resistance – these are broad categories, which are, after all, obvious and important – it is precisely the entangled nature of these categories, and their location in a specific biophysical and historical landscape, which shapes the character of the struggle. Specifically, peasant resistance to fire criminalization is made possible by the combination of a non-monolithic state, a differentiated peasant community, and the physical character of fire in wet-dry tropical climates. While I rely on the broad categories of state and peasant, criminalization and resistance (for while perhaps overly simplifying, these are heuristically useful categories), the struggle over fire is shaped by these categories in both their dichotomous, affirmative sense (state laws versus community solidarity), in their dialectical, intertwined sense (diversity and debates within the state), and also outside the categories, in relation to the realpolitik of place and practice (the biophysical nature of fire, local livelihood and resource management needs).

¹*Service des Eaux et Forêts* annual reports, 1969, 1971, and 1993; interviews, Forest Service agents, 20 May and 10 July 1999; see also Andrianampionona (1992).

²Interview, village near Tsiroanomandidy, 9 July 1999.

THE CASE OF MADAGASCAR³

Fire and Livelihoods

Probably half of Madagascar's vast grasslands are fired annually, as well as perhaps 1000 to 3000 km² of cleared forest. Periodic natural fire is inevitable in ecological zones with a lengthy dry season, including much of highland and western Madagascar. Since settlement some 1500 years ago, however, anthropogenic fires lit for specific management purposes have replaced natural fires (Burney 1997; Kull 2000b).

Malagasy peasants burn vegetation for a wide variety of tasks related to their livelihoods. Most importantly, burning is central to extensive range management, as it is the most efficient way to manage pastures with low stocking rates, large areas, and low capital and labor inputs. It is a tool used by ranchers and pastoralists from Kansas to California and from South Africa to Norway (Pyne 1995, 1997). Fire serves two roles. First, it maintains grass dominance, avoiding bush encroachment. Second, fire renews grassland vegetation. Winter dry season fires remove lignified grass, expose the soil to the sun, and fertilize new growth once spring rains and warmth arrive. Burning overrides the competitive effects of selective grazing, giving favored forage species a better chance. The protein-rich grass resprouts that follow burning carry the cattle through the late dry season (Kull 2000b, 2002b).

In pasture zones, herders burn different areas in succession, covering between 0.5 to 100 ha with each fire. The resulting patchy grassland includes unburned zones (used for collecting roofing thatch) and multiple zones with grasses in various stages of development. This patchiness serves to ensure resprouts throughout the hungry season and to protect against wildfires (Kull 2000b, 2002b; Laris in press).

In addition, peasants light many smaller-scale fires to prepare cropfields. This may occur in grasslands, in fallow fields, or in slashed secondary or primary forest. Such burns typically take place in October and November and range from 0.01 to 0.5 ha in size. Farmers also use fire for field fertilization and as an efficient and inexpensive means to clean irrigation canals and field edges. Such "cleaning" fires help reduce habitat for rats and rice-thieving birds. Burning also helps control other pests, such as ticks, and is especially useful in warding off flying locusts or killing resting locusts. Finally, peasants burn for managing pyrophytic woodlands and forests, including the endemic tapia woodlands and exotic pine and eucalyptus plantations (Dez 1968; Rajaonson et al. 1995; Bloesch 1999; Kull 2000b).

In areas of intensive land use and dense population, farmers restrict burning to protect cropfields, homes, orchards, and woodlots. All the same, numerous fires escape control or become ignited accidentally each year. In my main field site, Afotsara, for example, a wandering pasture fire torched one farmer's shelter used to cook lunch and wait out rain. In addition, not all fire use is constructive. Revenge, protest, jealousy, tenure conflict, and the quest for personal gain can promote criminal arson. A blaze in Afotsara that destroyed four hectares of privately-owned pine saplings was almost certainly intentional and related to a conflict over water rights.⁴

The diverse fires of Madagascar occur in a landscape subject to multiple claims of

³Based on 18 months of research (1996-2001) 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. Villagers are cautious when talking to outsiders about fire, a very politicized issue. They may seek to avoid the subject, avoid casting their community in a bad light, or may feed a researcher lines borrowed from state anti-fire propaganda. This is why I favored a long-term presence in one research site, in order to gain the confidence of my informants, to be able to compare words with actions, to triangulate between different sources, and to gain experience in cultural nuances for the other case studies. While I cannot claim complete authority in my interpretation of these interactions, I do hope to have elicited the best information possible.

⁴Interview, Afotsara, Nov. 20, 1998.

control. While most permanent cropfields are private property (either officially titled or through customary tenure agreements), claims to upland zones are complex. Tradition gives land ownership to the descendants of those who originally clear plots; legislation upholds this practice but requires permanent cultivation for official title. Legislation also provides for streamlined land titling when individuals re-forest hilltops. In most areas, *de facto* land rights in fallow-field zones and adjacent pasture or forest are under lineage-based control, unless a richer villager or outsider has obtained a government-sanctioned land title. All untitled, uncultivated land is also technically state domain, and the state claims most natural forest areas as classified forests or protected areas.

State Approaches to Fire

The French colonial government, in place from 1896 to 1960, largely viewed the ubiquitous fires as primitive agropastoral tools dangerous to economic assets and natural resources (Humbert 1927; Kull 2000a, 2000b). Many colonial leaders were biased against burning by their urban or temperate backgrounds, by elitist anti-indigenous views, or by their desire to replace extensive, fire-based forms of farming and ranching with intensive, more productive systems characterized by permanent fields, fodder production, and haying (Pyne 1997). Foresters, in particular, argued strongly against burning practices. To them, fire threatened valuable timber and caused deforestation and thus soil erosion. They were joined by naturalists, who saw fire as the chief agent of environmental degradation, and who assumed that Madagascar had once been covered by a fire-free, island-wide forest (an idea now discredited – see Burney 1997; Kull 2000a).

As a result of these views, an “anti-fire received wisdom” emerged that became firmly entrenched in research, policy, and institutions. Colonial and post-colonial government policies repeatedly attempted to restrict burning (Table 1). At the same time, the state grudgingly made room for the continuation of some economically-critical fire practices (e.g. some pasture fires, anti-locust fires). I outline the key historical events in the development and implementation of the anti-fire received wisdom below.

A Short History of Fire Politics

From settlement some 1500 years ago to the early nineteenth century, there was probably no state regulation of the use of fire. People used fire freely to expand and maintain pastures and to prepare cropfields, most likely managing fires through mutual understandings, evolving traditions, and community-based conflict resolution mechanisms. In the early nineteenth century, the island’s petty kingdoms were transformed into a sophisticated modern state, leading to the first recorded state-level regulation of fires (Dez 1968; Kull 2000b).

France conquered Madagascar in 1895. For the first decade, authorities focused on pacifying the island and establishing administrative structures (including a Forest Service). The foresters, alarmed by what they saw as wasteful fires, pushed for fire control, yet their enthusiasm was not shared by colonial officers administering the island for economic profit and political stability (anon 1904). Tentative restrictive policies in 1897 and 1900 met with resistance from cattle raisers and those affected by locusts, and were momentarily reversed in 1904.

During the next twenty years, the economic concerns of the colony were primordial, including both forest protection (for logging) and ranching. Legislation in 1907 and 1913 restricted burning to protect forests, soils and agricultural resources, but allowed authorized pasture renewal fires “temporarily” until modern ranching methods – haying, fencing, mowing – could be introduced. Each province established its own regulations for the timing of and restrictions on authorized burns, and several lively debates occurred between the anti-fire central administration and more pragmatic district officers (Kull 2000b).

In the period from the mid-1920s to the 1940s, the maturation of the anti-fire received wisdom resulted in the entrenchment of state-led fire criminalization. The Forest Service

became concerned with deforestation caused by slash-and-burn cultivation, bush fires, and extractive logging. At the same time, prominent scientists espoused alarmist anti-fire views (Perrier de la Bâthie 1921; Humbert 1927). These concerns resulted in an overhaul of forest legislation. The 1930 Forest Decree, and its strengthening modifications in 1937 and 1941 symbolized an era of tightened restrictions and increased repression. The 1937 modifications, in particular, strengthened the decree's language by calling for a general ban on fires:

“The burning, destruction, or cutting of forest, and bushfires for preparing cropfields or for pastures, are prohibited on all of the colony's lands.”⁵

Dissenting voices, however, had not disappeared, as the next sentence in the 1937 modifications makes clear, for it still allows District Chiefs to authorize pasture fires in zones over 2 km from forests, with the Governor General's approval. Administrators commented about these dissenting voices. For example, in 1929, Governor H. Berthier complained of the “indifference of the authorities in the face of the ruin of the Colony [by slash-and-burn cultivation and bush fires]”, and called for more strict enforcement (JOM 9 Feb. 1929). Forest chief L. Lavauden (1934: 953) wrote:

“Some civil servants, under the guise of goodwill for the natives, have not feared to openly approve these damaging practices [burning]. Every time the Forest Service has tried to stop these civil servants, it encountered complete indifference, if not a declared hostility”.

Coudreau explained in 1937 that the district administrators were human after all, and thus “hesitated to punish the poor devil who cut and burned the forest to grow the rice necessary to feed his family” (Bertrand and Sourdat 1998: 117). As a result, despite the increasingly repressive legislation, fires continued to burn.

In 1947 the French faced a serious anti-colonial rebellion. Not surprisingly, foresters and forest plantations were a prominent target of violence. The pot had boiled over, not just in terms of colonial domination, but also specifically in terms of the colonial repression of Malagasy natural resource management – which for many farmers and herders was their key interaction with the colonial state. The rebellion was brutally squashed, causing tens of thousands of deaths. All the same, a year after the rebellion, the Forest Service chief in Tulear province wrote that “in the current situation and due to the lack of personnel, the Forest Service is powerless to repress the destruction” (ANM IVD73/3).

The 1950s and 1960s were marked by a slight softening of the repressive regime, due to the legacy of the rebellion and revisionist range management ideas. A number of scientists began calling fire a “necessary evil” and promoting solutions such as counter-season fires and pre-emptive burning (Kull 2000b). Nonetheless, the French resumed strong anti-fire activity. Forest agents received financial bonuses for successful citations issued; some Forest Service districts were even self-financed through fines (Dez 1968).

The French legacy strongly influenced policy in the decade following the 1960 independence. New fire legislation banned forest burning and all wildfires outright, yet it allowed field clearance fires and counter-season (rainy season) pasture fires. The legislation established an authorization process for dry season pasture fires. These authorizations, meant to be “exceptional”, were nonetheless given annually for thousands of km² into the 1980s.

Fire politics – in tandem with national politics – heated up in the following decades. From 1969 to 1971, fires were at the top of the national agenda, a result of several particularly heavy fire years (due to drought and a slow erosion of government authority) and the growing international concern with environmental issues (Kull 1996). As a result, the government

⁵Article 36 of the Decree of 15 Jan. 1930, as modified on 25 Sep. 1937 (see Table 1).

launched a massive public awareness campaign, complete with radio advertisements, slogans, and flyers, and it toughened the prosecution of fire crimes.

The post-colonial First Republic fell apart in 1972, replaced by the socialist and isolationist Second Republic in 1975. While foreign-led environmentalism stalled, President Ratsiraka legislated much tougher anti-fire measures (Table 1). The government launched a number of anti-fire awareness and enforcement campaigns (RDM 1980). However, at the same time, increasing political and economic turmoil – from foreign debt to economic collapse – meant that on-the-ground fire enforcement became more and more inconsistent (Figure 1).

Crisis-ridden Madagascar slowly re-opened its doors to the outside world in the mid-1980s. This marked a new period in fire politics shaped strongly by two overriding factors: a boom in environmental concerns, and a financially and politically paralyzed government. A flood of foreign environmental projects emerged, capped by the multi-million dollar twenty year National Environmental Action Plan funded by the World Bank and bilateral donors (Kull 1996). Fires were renounced with renewed vigor: 1994-5 was declared the Year of the Fight against Bush Fires.

At the same time, the economy was mired in crisis and the government was powerless to actually enforce policies on the ground. Political unrest in 1991-2, including a six-month general strike, led to the fall of Ratsiraka but also a boom in fires (Table 2). Around 1990 the funds for enforcement bonuses to Forest Service agents ran dry; the number of citations issued dropped accordingly (Figure 2).⁶

After 1995, the government and foreign donors opened a new chapter in the history of fire politics, seeking to reconcile environmental goals and poorly-functioning enforcement through the new approach of community-based natural resource management. This corresponded with the return to power of Ratsiraka in 1997 on a platform of decentralization. Fire laws were not changed, yet a new 1996 law paved the way for the devolution of some renewable natural resource management decisions to community groups. In the realm of fire control, this new law, nicknamed “GELOSE”, has had a rough time as most communities have few incentives to change the present *de facto* free burning system (Kull 2002a).

CRIMINALIZATION AND RESISTANCE

Throughout the past century, the situation on the ground has been a stalemate. While the governments sought to restrict fires, rural Malagasy continued burning for their livelihood needs. This struggle over fire can best be understood as a case of criminalization and resistance.

The colonial and post-colonial states, guided by a powerful anti-fire received wisdom, sought to criminalize vegetation burning practices. The state harnessed the tools available to it to suppress fire-setting. First, it relied on laws and regulations (Table 1). The most extreme proponent of anti-fire rules was perhaps Forest Service chief L. Lavauden, who wrote in 1937:

“To govern is to annoy. In forestry matters, where only the specialist can distinguish between use and abuse, this is inevitable. It is through the quantity and violence of protest caused by forestry regulations that one can best judge its pertinence and effectiveness” (Bertrand and Sourdat 1998: 116).

Second, few laws are effective without enforcement, so the state made patrols, arrests, citations, courtroom trials, fines, and sentences (Figure 1). Punishment varied from incarceration, to village-wide collective fines (payable in cash or bricks), to tree-planting

⁶Interviews, Forest Service agents, 13 Aug. 1998 and 10 July 1999.

requirements. The state periodically attempted to improve enforcement, by giving more authority to patrolling foresters (1937, 1950), by strengthening prosecution (1930, 1972, 1976), by increasing the size of the Forest Service, by toughening prescribed punishments (1930, 1941, 1960, 1975, 1976, 1977), by giving financial incentives to foresters for citations issued (1930, 1950s, 1961-1990), or by mounting specific anti-fire patrols (1956, 1976-1979, 1980-1987).

The third tool of the state is propaganda. Bureaucrats realized early on that people do not necessarily respond to policies, and concluded that attitudes must also be changed, e.g. “through a slow education not only of the masses, but also of the ruling class” (Perrier 1921: 265). Approaches included massive public awareness campaigns, gubernatorial circulars, and political speeches. Politicians continue to spread anti-fire messages. In September 1998, the Prime Minister, Tantely Andrianarivo, came to a town near Afotsara. In his speech, he warned against burning, comparing it to mistreating one’s wife or abusing one’s heritage.⁷

To foresters and their allies, anti-fire legislation, enforcement, and propaganda are transparent processes leading to the common good. Yet, by prohibiting bush fires, the state in essence turned a normal agro-pastoral practice into a criminal practice. This is perceived by most peasants as an infringement upon traditional, long-established rights. The peasants have no moral conscience of having done anything wrong, not in the same sense as with theft or murder. Thus, the fire-setters view state restrictions on their burning activities as a kind of unjustified hazing (Peluso 1992; Neumann 1998).

The criminalization of traditional resource uses has occurred over and over throughout history. During the 1700s enclosure movement in England, “the rights and claims of the poor, [hunting, woodfuel collection, and free passage] ... were simply redefined as crimes: poaching, wood-theft, trespass” (Thompson 1975: 241; see also Hay et al. 1975). In colonial Algeria, in the late 1800s and early 1900s, the French forest code criminalized the entire way of life of certain people by outlawing the use of certain forests as rangeland, for crop cultivation, or for the gathering of dead wood, cork, and grass (Prochaska 1986). More recently, in cases that have parallels across the globe, Neumann (1998), Spence (1999), and Jacoby (2001) describe how the formation of national parks turned traditional villager activities like hunting, grazing, agriculture, and collection into crimes of poaching, trespass, and theft.

Of course, the criminalizing state is unlikely to be unified. The state is composed of a variety of individuals representing diverse personal and institutional interests. The criminalization of traditional resource use is typically pushed by a powerful, central, and visible portion of the state. In the case of Madagascar, the anti-fire criminalizing part of the state is located in the capital. It is an elite portion of the state; it includes the once powerful Forest Service, parts of the central leadership, capital city technocrats, and their allies including logging concessionaires, influential academics, international environmental agencies, and urban elites. Meanwhile, touring foresters may turn a blind eye to recent burns, *gendarme* or court judges may hesitate to enforce the laws, and district officials may argue for tolerance of fire.

Most peasants resisted the criminalization of fire – by continuing to burn – in order to defend their right to this efficient, natural, and well-adapted land management tool. Such resistance has attracted considerable research attention in recent years in studies of natural resource politics (Scott 1985; Peluso 1992; Bryant 1997; Moore 1998; Neumann 1998; Klooster 2000; Kepe et al. 2001). Resistance is sparked by threatened livelihoods, a sense of moral injustice, or political disagreement.

Criminalization often breeds resistance, at least in the examples presented earlier. English peasants subject to enclosures continued hunting and collecting woodfuel on the sly, overtly threatening the appropriators, and sometimes committing violence such as arson (Hay

⁷I was not present at the speech; speech repeated by informant, Afotsara, Oct. 15, 1998.

et al. 1975; Thompson 1975). Algerians who lost access to their woodlands continued cultivating in the forest, continued gathering wood and pasturing livestock, and eventually resorted to large-scale fire as protest (Prochaska 1986). Tanzanian peasants around Arusha National Park frequently violated park laws to “defend or reclaim perceived customary land and resource rights,” especially by encroaching on park lands (Neumann 1998: 13).

Resistance can be overt or covert, legal or criminal, attention-grabbing or quiet and incremental (Scott 1985). Sometimes, resistance efforts use the legal structures in place, including the ballot box, lobbying, and formal protest. Thompson (1975) documents 18th century peasant grievances from letters printed in the *London Gazette*. Prochaska (1986), studying Algerian forestry under French colonialism, unearthed detailed letters of complaint.

Peluso (1992: 19) argues that the character of resistance depends upon the form of domination:

“Forest peasants resist forest land control by reappropriating forest lands for cultivation; they resist species control by “counter-appropriating” species claimed by the state (or other enterprises) and by damaging mature species or sabotaging newly planted species; they resist labor control by strikes, slowdowns, or migration; and they resist ideological control by developing or maintaining cultures of resistance”.

Yet resistance is not just shaped in reaction to forms of domination, but also in terms of the biophysical environment and the realpolitik of place and practice (Moore 1998). Resistance is shaped by a “landed moral economy” (Neumann 1998: 11), where people’s expectations of subsistence rights – and thus their resistance – are based on both historically specific social relations and localized conditions of resource availability.

Finally, resistance is shaped by the non-monolithic character of the state and peasantry. We have mentioned the diversity within the state above, and we will look at how fire-starters exploit this situation below. As far as the peasantry, resistance is not uniform. Rural Malagasy society is divided by wealth, caste, ethnic heritage, age, gender, political affiliation, religion, and livelihood strategies. In consequence, villagers may vary in their resistance to anti-fire rules, and sometimes such resistance may be as much about internal village disputes as against state fire legislation. 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 prefer the burning of upland communal pastures, 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 one farmer said, there is no way a poor farmer can stop the cattle owners from burning – “they are naughty (*maditra*), they will burn maliciously (*manao ankasipary*).”⁸ A similar example comes from Afotsara. One day, the passage of locusts resulted in numerous fires. I later asked a well-off woman about one large fire that had burned acres of private pine woodlots (of which she was perhaps among the owners). She claimed that people took advantage of the locusts as an excuse to burn, in order to kill the lower branches of the pines so they could collect them for firewood (by tradition, dead wood may be collected by anyone, even in private woodlots).⁹

TAKING ADVANTAGE

In Madagascar, the best way to understand forms of resistance to the criminalization of vegetation fire is through a phrase used by the peasants themselves. Multiple peasants blamed the act of “taking advantage”, or of seizing an opportunity (verb *manararaotra*,

⁸Interviews, village near Tsiroanomandidy, 9 July 1999; Forest Service agent, 10 July 1999.

⁹Interview, near Afotsara, 12 Sep. 1998.

substantive *fanararaotana*), for unexplained fires.¹⁰ In effect, peasants rooted in a effort to gain a livelihood from the land take advantage of any window of opportunity to accomplish their burning needs. They take advantage of the character of grasslands and of fire itself, of state weaknesses, and of strategic moments of village solidarity versus the state. As a result they have succeeded in fighting a century of state anti-fire repression, leading to the impasse, or “fire problem,” of today.

The concept of “advantage-taking” is a subset of resistance, distinct especially from that of overt protest. If resistance is the attempt to forestall criminalization, to protect one’s rights and one’s vision of appropriate landscapes, then it can have two approaches, differentiated by goal. When the immediate goal is physical, or ecological, i.e. the management of vegetation through fire for pasture or agricultural production, the approach is that of advantage-taking. Protest may be implied in the fact of the action, but it is not the motive. When the immediate goal is to de-criminalize a practice, to change state policy or ideology (with an ultimate goal of fire-based vegetation management), the approach can be through legal, political channels or through overt protest. Below, I argue that Malagasy peasants use a variety of means to resist fire criminalization by advantage-taking, and that all too often, analysts have overemphasized “fire as overt protest” at the expense of “advantage-taking.”

Taking advantage of the nature of fire

Fire itself is a powerful ally of fire-reliant peasants. Fire is inevitable in grasslands and woodlands with extended dry seasons. The longer one waits, the hotter and further a fire burns -- and burn it will, because if not lit on purpose, fires will eventually be lit accidentally or by lightning. But fire is also ambiguous. Fire does not depend upon humans for ignition, it is self-propagating and can do its work in the absence of people, it is easily lit anonymously, it can accomplish multiple purposes simultaneously, and the link between cause and effect is rarely straightforward or predictable.

As a result, the peasants take advantage of the complex nature of fire in order to continue burning and escape punishment. They burn at night or out-of-sight, letting fire do its own work. They use time-delay ignition techniques. They let escaped authorized blazes run their course. They allow fires to escape “accidentally.” Finally, they piggyback one fire on another, lighting additional fires ahead of a wildfire to get some burning done but avoid blame.¹¹ Since fire-starters can easily remain anonymous, enforcement is difficult. Frustrated government officials, foresters, and tree-growing villagers all complain of the impossibility of apprehending fire starters for precisely the above reasons.¹² Fire is a trump card in the hands of those who favor burning.

The continued use of an appropriated resource or of a criminalized resource management tool is one of the most common strategies of peasant resistance. Possession is, after all, nine-tenths of the law. Sometimes, such resistance strategies affect resource conditions. At the extreme, the sabotage of irrigation works, the trampling, killing or uprooting plants, poaching and forest cutting can all be expressions of resource conflict inscribed directly upon the landscape.

Fire lends itself perfectly to such uses. People often burn to fight, establish, or maintain specific land claims or resource use patterns (Prochaska 1986; Pyne 1995, 1997; Kuhlken 1999). This is why Malagasy villagers continue to burn their lands with such

¹⁰Multiple interviews and conversations, 1998-9.

¹¹Multiple interviews and observations, 1994-1999; interview, Forest Service agent, 28 June 1999.

¹²Interviews, Afotsara, 19, 20, and 23 Nov. and 6 Dec. 1998; Interview PDFIV Ambatolampy, 26 Apr. 1999; Interview, Forest Service agent, 10 July 1999; Letter from Chef of Betroka Province to the central government, 8 Feb. 1913 (ANM D196); Letter from Chef of Fianarantsoa Province to the central government, 9 Nov. 1956 (ANM D196).

regularity (in the face of the anti-fire policies). In Afotsara, at least 155 separate fires charred a total of 690 hectares during 1998, corresponding to 38 percent of village territory. 40 of the smaller fires (covering together only 4.4 ha) were legal crop-field preparation fires. The rest were all technically illegal, but most served various resource management purposes, especially pasture renewal and locust control.

Sometimes, fires are used more directly in asserting control over resources. On the “Wild Coast” of South Africa, villagers resist controls on wildlife hunting in a nature reserve by burning strips of grass outside the reserve to attract game (Kepe et al. 2001). In Madagascar, Rajaonson et al. (1995) tell of some farmers burning a state afforestation project in order to contest state claims to the land. A few years later, the farmers re-planted the burned zone with trees in order to claim the land as their own.

Taking advantage of village solidarity

Rural Malagasy communities, as noted earlier, have their rivalries, tensions and conflicts. Yet, like elsewhere (Prochaska 1986; Neumann 1998), villagers strategically use solidarity to avoid state meddling. In Madagascar, villagers use strategic solidarity to evade responsibility and punishment, taking advantage of the easy anonymity of fire-setters and fire’s ambiguity of purpose. As a rule, when confronted by outside authorities, villagers blame fires on unnamed passers-by (*mpandalo*), bad people (*olon-dratsy*), unknown people who burn for pleasure or out of malicious intent (*mpandorodoro*, *mpanao ankasokaso*), bandits and cattle-rustlers (*dahalo*, *fahavalo*), or profiteers (*mpanararaotra*).¹³ Only rarely will someone admit to lighting a fire, for example when a wildfire could clearly be traced back to a crop-field fire that escaped.

If villagers have been unsuccessful at blaming outsiders, they may choose to pass a fire off as having accidentally been lit by a young child or a very old man, in the hopes of a more lenient penalty. In Afotsara, two passing *gendarmes* witnessed an illegal woodland fire. Villagers fought and stopped the fire, and the *gendarmes* left without prosecuting anybody, satisfied by the story of a child playing with fire. It later emerged that the fire was likely deliberately set to clear an area for gravel exploitation.¹⁴ The historical record provides further examples. In 1919, a village in Itasy province was fined for “bad faith” in designating two children as fire-starters (JOM 1919: 1010). In 1935, District Chief Gallaire wrote disparagingly of the “custom” of village leaders of presenting the infirm, women, or children as responsible for fires (AOM mad-ds//334).

Strategic village solidarity in the case of fire has two main causes. First, many regions have a more-or-less accepted norm of burning based on the regional ecology and economy. In zones of extensive pastures, grassland renewal burning serves the common good of much of the village, fighting bush encroachment, causing a green bite and preventing wildfires, and is seen as legitimate by most of the community. Here, free-burning fire is the accepted standard of natural resource management, and this norm is reinforced by social pressures (Kull 2002a). A richer farmer who owns significant pine woodlots often threatened by fire on the outskirts of Afotsara spoke of the pressure to keep fires anonymous. If you report somebody to the authorities for burning, he said, “then his family will come and bother you -- threaten you, burn your pines, kill you.”¹⁵ A *Chef de Cantonnement Forestier* affirmed this situation:

“People may whisper to you, yes, I saw who lit the fire that burned the hills yesterday. But there is no way that they would sign their name to a *Procès-Verbal* (official citation) nor stand witness in a trial, because they risk retribution from *kakay* (rivals)

¹³Multiple interviews and conversations, 1998-9.

¹⁴Observation and interviews, Afotsara, 1998.

¹⁵Interview, Afotsara, Nov. 25, 1999.

in the village.”¹⁶

The second cause is the desire to avoid outside intervention in village affairs by a state often seen as meddling. A strong sense of moral obligation to the community supersedes internal conflicts when dealing with external fire enforcement; community members prefer to remain silent or to address matters among themselves (Andrianampionona 1992). The only situation when villagers involve outside authorities is when the accepted norms of burning are violated and, in addition, local conflict resolution mechanisms do not suffice, e.g. in cases of severe negligence, arson, or damage to property.¹⁷

States often respond by punishing villages as a whole, typically with a collective fine. In Algeria, collective fines were first used for illegal fire in 1877 (Prochaska 1986). In Madagascar, collective fines were used as early as 1914, formalized in 1930, strengthened in 1941, repeated in 1960, and are still used today. In fact, 40 percent of fire crimes in Antsirabe *Circonscription Forestier* between 1983 and mid-1997 were ascribed to villages, not individuals. Similarly, the fires in Andringitra Nature Reserve in 1995 (Table 3) resulted in a collective fine of 25,000 Malagasy francs per male taxpayer. However, collective fines in turn inspire resistance and solidarity among villagers, and according to Forest Service agents, collective fines are politically difficult to apply.¹⁸

Taking advantage of the state

Fire-setting peasants will take advantage of the state in order to continue burning. I highlight three aspects: the state's limited reach, its internal diversity, and moments of distraction.

First, people take advantage of the state's relative lack of power, money, and staff. In colonial days, Lavauden (1934) compared the paltry number of forestry officials, a total of 66, with the national territory of 59 million hectares. In 1970s and 1980s, when the Forest Service payroll numbered between 700 and 900, this still left about 70,000 ha of grasslands and forest per foresters (including office staff). Forest Service staff has grown to over 1000 in past years; however, austerity measures leave the agency with limited means (except near protected areas). Typical Forest Service offices are run-down, containing little more than a desk and a dusty cabinet with yellowing documents. There may be no functioning cars or motorbikes. In many non-forest areas, one forester historically handled three to four *cantons*; now there is often only one agent per sub-prefecture, responsible for up to 800,000 ha. Due to desk responsibilities (giving permits to tree-cutters) and financial limitations, time spent patrolling is minimal.¹⁹

As a result, fire-setting peasants know they can escape the control of the Forest Service. Forest Service agents acknowledge this state of affairs. In interviews about forest and fire legislation, many foresters' responses were prefaced by the phrase “in principle”, as in “in principle, people aren't supposed to burn this area”, or “in principle, fire authorizations are given for late October, after three days of rain.”²⁰ Of course, reality is different. Rules are most strictly enforced along roads, if at all. Any gap in control is taken advantage of. For example, the one-year absence of a forester from Zafimaniry country in 1970 led to a huge burst in slash-and-burn cultivation fires (Coulaud 1973).

Second, the peasants take advantage of diversity within the state. The state, as I

¹⁶Interview, Forest Service agent, 10 July 1999.

¹⁷Of thirteen files (dated between 1989 and 1996) of fire crimes I consulted at the *Circonscription des Eaux et Forêts* in Antsirabe in August 1998, eleven were brought to the authorities by owners of damaged property or rivals, while one was prosecuted by passing *gendarmes* (the thirteenth was unclear).

¹⁸Interviews, Forest Service agents, 28 June and 10 July 1999.

¹⁹Interviews, Forest Service agents, March 12, June 15, Aug. 12, 1998.

²⁰Interview, Forest Service agent, June 28, 1999.

outlined earlier, is itself a complex arena for contesting power, a varied set of institutions with differing goals, composed of individuals facing their own livelihood struggles. Peasants exert pressure where they can. For one, they take advantage of the fact that field foresters are far removed from headquarters. Several foresters reported being increasingly scared of the people, of having received threats, and thus of reduced enthusiasm for strict enforcement. As one *Chef de Secteur* wrote, the villagers “consider us as enemies”.²¹ Alternatively, villagers rely on foresters’ empathy (or willingness to accept bribes); the result is that one-third to one-half of forest and fire crime citations result in comparatively lenient out-of-court settlements (Figure 2).

There is even room for maneuver in the central, capital city part of the state. Peasants convinced some officials of the need for fire, as shown in letters and statements from lower-level officials to the central government. The state is of two minds about fire, and the peasants exploit this situation, testing the limits of enforcement, pressuring elected leaders, and so on. It was this unseen public force, a populace that said its cattle would die without fire, that contributed to tempering fire legislation. As Dez (1968) noted, administrators were often caught in between pro-fire populist leaders and anti-fire technocrats. Foresters complained vehemently of the indifference of other arms of the state. This is why, perhaps, the state has responded to burning infractions with “that paradoxical mix of *laissez faire* and force remarked on in other conditions of conflict and change in rural Africa” (Cline-Cole 1996: 130).

Interviews expand this point. While working in the northeastern region of the island, one Forest Service agent wrote several citations for illegal slash-and-burn fires. One of the accused happened to be a relative of a *Deputé* to the National Assembly, who pulled strings such that the forester was forced to drop the matter and request a transfer. Two other foresters reported that enforcement is frequently stymied by pressure from local politicians. One went as far as to claim “*tsy voahaja mihitsy ny lalàna*”, the law is not respected at all. He said he was hard-pressed to do more than environmental awareness efforts, for he knew that he would never be able to punish rich villagers due to their political influence, and punishing poor villagers was too easy and unfair.²²

Politicians know that many rural villagers resent controls on burning. According to a retired high-level forester, politicians will spout official anti-fire rhetoric when speaking in public fora, yet at the same time they will let it be known through other channels that they will protect local burners. An elder in Afotsara recounted exactly such an event which occurred several decades ago: the mayor of Afotsara’s *canton* was trying to increase his popularity, so he told the citizens to go ahead and burn (in response, the Forest Service fined the whole *canton*; each man had to plant 200 trees).²³

Third, peasant burners take advantage of moments of state distraction. A prime moment is during locust invasions, when the state must choose between enforcing anti-fire laws, or allowing peasants to fight the economically-disastrous locusts with fire. As a result, the passage of locusts serves as a convenient excuse to any potential burner: what *gendarme* or Forest Service officer could deny a farmer the right to protect her crops?²⁴ As fires can serve multiple purposes simultaneously, it is nearly impossible to document the difference between a locust fire and a pasture fire. 37 percent of fire extent in 1998 in Afotsara was blamed in the first instance on locusts (it was a year of recurring locust invasions). When I inquired about the purpose of one particularly large fire, responses varied. Several said locusts, some said the fire came from “the other side of the hill,” while some matter-of-factly

²¹Personal correspondence, letter dated June 2, 1996. Also, interviews, Forest Service agents, 13 Aug. 1998, 20 May and 28 June 1999.

²²Interviews, Forest Service agents, 28 June and 10 July 1999, Aug. 21, 2001.

²³Interview, Forest Service agent, Aug. 21, 2001; interview, Afotsara, Dec. 9, 1998.

²⁴Interviews, Afotsara, 25 Apr., 19 Aug., 12 and 16 Sep., 5 and 6 Dec. 1998.

stated it was for pasture renewal.

Another moment of state distraction is the eve of the national holiday, on June 25. At this point, people light bonfires to celebrate but sometimes also take advantage of the moment by “accidentally” letting a bonfire escape.²⁵ Periods of state insecurity with banditry are also blamed for fires. In the mid-1980s, people in Afotsara frequently blamed their own fires on *dahalo* (bandits), as others have done in the periphery of Andringitra National Park.²⁶

A crucial moment of state distraction is during elections or periods of political unrest. During such moments, there is less political will to stop fires, and people take advantage of the distracted state. There is little danger of enforcement when government employees are on strike, or during election campaigns when candidates seek to win votes by appealing to rural sentiments.²⁷ The anecdotally documented surge in fires during periods of unrest and elections (Table 2) can, of course, have two sides: is it a reaction to state weakness, or a manifestation of protest against the state? I address this distinction below.

FIRE FOR PROTEST OR FOR RESOURCE MANAGEMENT?

Fires are frequently interpreted to represent peasant protest. Fire is seen as a “destructive form of protest undertaken by the oppressed or disempowered” (Kuhlken 1999: 343). The argument is as follows: Fire has been one of the most frequent targets of state intervention in rural resource management (Prochaska 1986; Pyne 1995; Sivaramakrishnan 1996), and fire protection went hand-in-hand with European imperialism (Pyne 1997). Almost uniformly, governments sought to stop fire-setting, which was seen as wasteful and destructive. Fire, a customary resource management tool, was criminalized by the state. In consequence, fires came to symbolize resistance and protest by the rural people. In Spain, fires protest the loss of traditional common access to woodlands. In New Mexico, Hispanics burn the forest in protest against Forest Service policies. In Java, peasants light fires to protest state forest control (Peluso 1992). In Greece, there is a strong correlation between wildfires and periods of social unrest (Pyne 1995); while in Algeria fires symbolized rural resistance to colonialism (Prochaska 1986). In India, people of all classes fought the British fire suppression policy, for “without fire the land was even more worthless to them.” They fought with both open arson as well as clandestinely, “a guerrilla war of biotic insurgency” (Pyne 1997: 490). Throughout, people harness fire’s rich symbolism and iconographic appeal (Kuhlken 1999).

Fires in Madagascar are also frequently seen as symbols of protest (e.g. Dez 1968; Mohr 1971; Olson 1984; Durbin 1994; Rajaonson et al. 1995; Jarosz 1996). However, it is difficult to prove whether the fires associated with political events such as those in Table 2 represent overt protest, advantage-taking, or a mixture of both. Due to a century of repression, farmers and herders can be hesitant in discussing protest burning. Interviews of farmers in Afotsara resulted in a broad range of opinions whether fire could be overt political protest, ranging from denial to support.²⁸

It is much easier to link specific, local fires to specific, local political events than to see causation in general nation-wide trends. The burning of state forest stations during the 1947 rebellion, together with the fires in Table 3 are plausible examples of protest fires. Another example, extremely symbolic, was the torching of the *Rova*, the former Queen’s

²⁵Interview, village near Ambositra, 23 June 1999.

²⁶Interviews, Afotsara 9 Dec. 1999, Andringitra 23 Sep. 1998.

²⁷Interviews, Afotsara 24 Nov. 1998, 27 July 1999.

²⁸Multiple interviews, Afotsara, Nov. and Dec. 1998.

Palace, in 1995.²⁹ A final example comes from a village near Afotsara. Here, the elected village councilor – a politically well-connected rich farmer – had taken the enforcement of environmental laws to heart. In 1997, for example, he fined villagers for illegally cutting trees. Soon thereafter, a fire burned in the village woodlands. The councilor blew his whistle to summon the village to fight the fire. The very next day the rest of the woodland was ignited in protest, just to spite him.³⁰

I believe, however, that outside of such case-specific instances, it is mistaken to over-emphasize the use of fire as overt protest. In all likelihood, the number of fires assumed by the literature and by the state to be lit for overt protest is exaggerated. In Madagascar, more often than not, people light fires during elections or periods of unrest not to protest the state, but to take advantage of state distraction in order to renew their pastures, reduce the fuel load, or clear brush without fear of enforcement. This is a question of intentionality. The observed logic and patterns of resource use strongly point to the conclusion that most fires are a straightforward livelihood practice (if at times politically savvy), and not overt protest. The peasants' actions implicitly protest the restrictions, but as far as motives for burning, material needs are much more relevant than political or symbolic purposes (Rangan 1996). As Leach and Fairhead (2000) note, resistance is often not targeted directly at the broader state discourse (e.g. the anti-fire received wisdom), but at the material effects of the discourse, such as laws, actions, and enforcement. For example, illegal forest slash-and-burn fires increased notably in several key periods of political unrest, as forest farmers used these opportunities to expand their cropfields – it is highly unlikely that they cultivated forest fallows just for protest (Olson 1984).

In the context of a century of fire repression, all purposely-lit fires are implicitly protest fires. Yet it is crucial to distinguish between moments when protest is only implicit in the presence of the fire (all purposely-lit resource management fires in an anti-fire regulatory context), and when the specific motive for the fire is protest (overt protest fires). While fires lit for standard agro-pastoral purposes may give villagers a sense of protest, of having denied the state, protest fires may be much more in the eye of the beholder. That is, a peasant may light a blaze to renew a pasture – choosing a politically expedient day to do so and avoid punishment – while the urban bureaucrat may see this fire as a symbol of peasant discontent.

CONCLUSION

Malagasy fire politics is a historical process of criminalization and resistance. Peasants and the state struggled over fire to assert both ideological claims of how landscapes should be managed and physical claims to resource access. The chief tool of the state in implementing its vision (rooted in an anti-fire received wisdom) was criminalization through repression and rhetoric. Yet the state was not monolithic. Some bureaucrats and politicians spoke for moderation, while rural state agents necessarily adapted to local contexts. The peasants who relied upon fire to manage their landscape did not perceive burning as a crime, and they resisted state control. They took advantage of internal state diversity, of strategic village solidarity *vis-à-vis* the state, of the biophysical character of fire itself, and of the ambiguity between protest fires and livelihood-oriented burning in order to effectively resist state control.

This pattern of criminalization and resistance has persisted for an entire century. This stalemate is rooted in the complex characters of both fire and the state, in the various ambiguities that allow each side to reach its immediate goals. The multiheaded state satisfies

²⁹The *Rova* is a collection of buildings on Antananarivo's highest summit built during the 19th Century at the height of the Merina monarchy. It symbolizes the historical political dominance of the central highlands (Imerina); its burning led to intense speculation of arson symbolic of coastal-highlander political tensions.

³⁰Interviews, Afotsara, 8 Dec. 1998, 13 and 15 Apr. 1999.

its elite, technocratic and environmental arms through the anti-fire received wisdom and legislation, the feeling that it is doing something to solve the fire problem, to stop environmental degradation and what it sees as senseless protest fires. Meanwhile, dominant fire-dependent peasants rely on the ambiguous biophysical character of fire to continue burning – in the face of regulation – for their livelihood needs. The fact that peasants can get away with burning then satisfies the state's populist and fire-sympathetic side. The stalemate, then, has persisted as the best compromise between multiple parts of the state and peasantry.

The consequences of this stalemate are significant. On the one hand, foresters and environmentalists can report little but frustration in their hundred-year attempt to alter peasant pasture and forest management practices. Fires are still ubiquitous and deforestation is rampant. On the other hand, peasant burners, whether well-intentioned or not, still face the risk of punishment. As a result, fire practices and decisions are pushed underground, and burners do not oversee their fires (aside from cropfield preparation burns), letting them run semi-wild. The stalemate may satisfy immediate goals, as described in the previous paragraph, but the overall problem remains unresolved.

This stalemate was recently recognized by policy-makers (e.g. Rajaonson et al. 1995), and served as the inspiration for a new community-based natural resource management policy called GELOSE. This policy sought to devolve the management of certain state-claimed resources, such as forests, pastures, or lakes, to adjacent communities. However, the persistent anti-fire received wisdom has so far interfered with the use of GELOSE to resolve the fire stalemate, especially as the old anti-fire legislation remains in effect (Kull 2002a). The crucial step to solving Madagascar's fire problem is not necessarily found at the level of governance, but in the dismantling of the anti-fire received wisdom. The majority of state officials, environmental bureaucrats, and donor agencies have been slow in recognizing the legitimate role of natural and anthropogenic fire in the management of numerous landscapes around the island.

At a broader level, this study suggests that the exercise of power in natural resource conflicts, in struggles over appropriate landscapes and their uses, is not sufficiently captured in models of state criminalization and peasant resistance. These models should be expanded to include two major considerations. The first is the importance of the ambiguities and muddy middle grounds *between* dialectic categories such as domination and resistance, state and peasant, protest and advantage-taking. Both the broad, dialectic categories, as well as their complexities and contradictions, are crucial to shaping these conflicts. In the Malagasy case, I demonstrate that it is precisely because of the ambiguities of fire's biophysical character, the complexities of state-peasant relations, and the confusion between fire as protest and fire as advantage-taking, that peasants have succeeded in defending free-burning land management. Second, the struggle must be placed into its political ecological context, into a *realpolitik* of place and practice. The specific, contextual character of local resource ecology, of people's livelihood needs, aspirations and possibilities, or of the regional political and environmental discourse all shape the nature of the conflict. This is demonstrated in the Malagasy case by the central role played by the particularities of grassland fire in wet-dry climates, by livelihoods based, at least in part, on extensive cattle-raising, and by the island's particularly vehement anti-fire received wisdom. By incorporating these two elements – ambiguities and context – into models of domination and resistance as I have done in the case of Madagascar, we can improve the analysis of the politics of resource management.

REFERENCES

ANM: *Archives National de Madagascar*, Antananarivo, Madagascar.

AOM: *Archives d'Outre Mer*, Aix-en-Provence, France.

JOM: *Journal Officiel de Madagascar*.

Andriamampionona, A. (1992) Les feux de brousse dans la region de l'Itasy. Report FAO/PNUD/MAG/88.032.

- anon. (1904) Les feux de brousse. *Bulletin Economique, Madagascar et Dependences* 4, 25-9.
- Bertrand, A. and M. Sourdat (1998) *Feux et déforestation à Madagascar, revues bibliographiques*. Antananarivo: CIRAD - ORSTOM - CITE.
- Bloesch, U. (1997) *La problematique du feu dans les aires protegees d'Ankarafantsika et sa zone peripherique*. Rapport de Mission, Conservation International.
- Bloesch, U. (1999) Fire as a tool in the management of a savanna/dry forest reserve in Madagascar. *Applied Vegetation Science* 2, 117-124.
- Bryant, R. (1997) *The Political Ecology of Forestry in Burma: 1824-1994*. Honolulu: University of Hawai'i Press.
- Burney, D. A. (1997). Theories and facts regarding Holocene environmental change before and after human colonization. In *Natural and Human-induced Change in Madagascar*, (B. D. Patterson and S. M. Goodman, ed.), pp. 75-89. Washington: Smithsonian Press.
- Cline-Cole, R. (1996) Dryland forestry: manufacturing forests and farming trees in Nigeria. In *The Lie of the Land* (M. Leach and R. Mearns, eds.) pp.122-139. Portsmouth NH: Heinemann.
- Coulaud, D. (1973) *Les Zafimaniry: un Groupe Ethnique de Madagascar à la Poursuite de la Forêt*. Antananarivo: Fanontam-Boky Malagasy.
- Desjeux, D. (1979) *La Question Agraire à Madagascar* Paris: Editions l'Harmattan.
- Dez, J. (1968) La limitation des feux de végétation. *Tany Malagasy/Terre Malgache* 4, 97-124.
- Durbin, J. (1994) *Integrating Conservation and Development: the Role of Local People in the Maintenance of Protected Areas in Madagascar*. Doctor of Philosophy Thesis in Ecology, University of Kent, Canterbury.
- Gupta, A. (1995) Blurred boundaries: the discourse of corruption, the culture of politics, and the imagined state. *American Ethnologist* 22, 374-402.
- Hay, D., P. Linebaugh, J. G. Rule, E. P. Thompson and C. Winslow, eds. (1975) *Albion's Fatal Tree: Crime and Society in Eighteenth Century England*. New York: Pantheon.
- Humbert, H. (1927) Principaux aspects de la végétation à Madagascar. La destruction d'une flore insulaire par le feu. *Memoires de l'Academie Malgache* Fascicule V.
- Jacoby, K. (2001) *Crimes Against Nature*. Berkeley: University of California Press.
- Jarosz, L. (1996). Defining deforestation in Madagascar. In *Liberation Ecologies*, (R. Peet and M. Watts, ed.), pp. 148-164. London: Routledge.
- Kepe, T., B. Cousins and S. Turner. (2001) Resource tenure and power relations in community wildlife: the case of Mkambati area, South Africa. *Society and Natural Resources* 14, 911-25.
- Klooster, D. (2000) Community forestry and tree theft in Mexico: resistance or complicity in conservation? *Development and Change* 31, 281-305.
- Kuhlken, R. (1999) Settin' the woods on fire: rural incendiarism as protest. *Geographical Review* 89, 343-63.
- Kull, C. A. (1996) The evolution of conservation efforts in Madagascar. *International Environmental Affairs* 8, 50-86.
- Kull, C. A. (2000a) Deforestation, erosion, and fire: degradation myths in the environmental history of Madagascar. *Environment and History* 6, 421-50.
- Kull, C. A. (2000b) *Isle of Fire: the Political Ecology of Grassland and Woodland Burning in Highland Madagascar*. Ph.D. dissertation, University of California at Berkeley.
- Kull, C. A. (2002a) Empowering pyromaniacs in Madagascar: ideology and legitimacy in community-based resource management. *Development and Change* 33, 57-78.
- Kull, C. A. (2002b). Madagascar's burning issue: why do natural resource conflicts persist? *Environment* 44, 8-19.
- Laris, P. (in press) Burning the seasonal mosaic: preventative burning strategies in the wooded savanna of southern Mali. *Human Ecology*.
- Lavauden, L. (1934) Histoire de la législation et de l'administration forestière à Madagascar.

- Revue des Eaux et Forêts* 72, 949-60.
- Leach, M. and J. Fairhead (2000) Fashioned forest pasts, occluded histories? International environmental analysis in West African locales. *Development and Change* 31, 35-59.
- Mohr, C. (1971) 'Fires of anger' scar Madagascar. *New York Times*, Jan. 3, 1971.
- Moore, D. S. (1996) Marxism, culture, and political ecology: environmental struggles in Zimbabwe's Eastern Highlands. In *Liberation Ecologies* (R. Peet and M. Watts, eds.) pp. 125-147. London: Routledge.
- Moore, D. S. (1998) Subaltern struggles and the politics of place: remapping resistance in Zimbabwe's eastern highlands. *Cultural Anthropology* 13, 344-81.
- Neumann, R. P. (1998) *Imposing Wilderness*. Berkeley: University of California Press.
- Olson, S. (1984) The robe of the ancestors: forests in the history of Madagascar. *Journal of Forest History* 28, 174-186.
- Peluso, N. L. (1992) *Rich Forests, Poor People*. Berkeley: University of California Press.
- Perrier de la Bâthie, H. (1921) La végétation Malgache. *Annals du Musée Colonial de Marseille* Sér. 3, v. 9, 1-266.
- Prochaska, D. (1986) Fire on the mountain: resisting colonialism in Algeria. In *Banditry, Rebellion and Social Protest in Africa* (D. Crummey, ed.) pp. 229-252. London: James Currey.
- Pyne, S. J. (1995) *World Fire*. New York: Henry Holt .
- Pyne, S. J. (1997) *Vestal Fire*. Seattle: University of Washington Press.
- Rajaonson, B., L. P. Randriamarolaza, D. Randrianaivo, E. Ratsimbazafy, V. Rejo Tsiresy and A. Bertrand (1995) *Élaboration d'une politique et d'une stratégie de gestion des feux de végétation à Madagascar*. Office National de l'Environnement et OSIPD, Janvier 1995.
- Rakatonindrina, R. (1989) Les grands problèmes actuels de la conservation des écosystèmes: défrichement et feux de brousse. In *Environnement et Gestion des Ressources Naturelles dans la Zone Africaine de l'Océan Indien* (M. Maldague, K. Matuka and R. Albignac, eds.) pp. 111-122. Paris: Unesco.
- Rambeloarisoa, G. (1995) Etude des feux de brousse dans trois Firaisampokontany d'Antananarivo-Atsimondrano concernés par le reboisement villageois. *Akon'ny Ala* 17, 4-13.
- Rangan, H. (1996). From Chipko to Uttaranchal: development, environment, and social protest in the Garhwal Himalayas, India. In *Liberation Ecologies*, (R. Peet and M. Watts, ed.), pp. 205-226. London: Routledge.
- Ratsirarson, J. (1997) *Etude comparative de la situation de la Réserve Naturelle No. 5 de l'Andringitra et ses zones périphériques de la période 1960/1975 à la période 1990/1996*. Unpublished consultant's report, WWF, April 1997.
- RDM (Repoblika Demokratika Malagasy) (1980). Rapport du Groupe Interministeriel d'Etudes sur les Feux de Brousse, Antananarivo.
- Robbins, P. (2000) The rotten institution: corruption in natural resource management. *Political Geography* 19, 423-43.
- Scott, J. C. (1985) *Weapons of the Weak*. New Haven: Yale University Press.
- Sharp, J. P., P. Routledge, C. Philo and R. Paddison. (2000). *Entanglements of Power: Geographies of Domination/Resistance*. London: Routledge.
- Sivaramakrishnan, K. (1995) Colonialism and forestry in India: imagining the past in present politics. *Comparative Studies in Environment and History* 37, 3-40.
- Sivaramakrishnan, K. (1996) The politics of fire and forest regeneration in colonial Bengal. *Environment and History* 2, 145-194.
- Sivaramakrishnan, K. (1997) A limited forest conservancy in southwest Bengal, 1864-1912. *The Journal of Asian Studies* 56, 75-112.
- Spence, M. D. (1999) *Dispossessing the Wilderness*. Oxford: Oxford University Press.
- SSG (Service de Statistique Générale) (1953) *Annuaire Statistique de Madagascar, Vol. 1*

- 1938-1951* Tananarive, Imprimerie Officielle.
- Sundar, N. (2000) Unpacking the 'joint' in Joint Forest Management. *Development and Change* 31, 255-79.
- Thompson, E. P. (1975) *Whigs and Hunters*. London: Allen Lane.

Table 1. Summary of legislation and government acts relevant to grassland and woodland fires, Madagascar, 1896-1997.

Legislation	Date	Source	Comments
Gubernatorial circular 286	Dec 28, 1897	JOM 15jan1898	Encourages local authorities to stop pasture fires.
Décret établissent le regime forestier	Feb 10, 1900	JOM 7apr1900	Bans fires within 200m of forests, except by owner and with governor's permission.
Gubernatorial circular	Mar 22, 1904	JOM 30mar1904	Re-authorizes all pasture fires >2km from forests.
Arrêté reglementant les feux de brousse	Feb 13, 1907	JOM 9mar1907	Bans all fires not necessary for pasture renewal or insect control.
Decisions locales reglementant les feux de brousse	1907 to 1919	JOM (various)	Province-level rules about authorization process for pasture fires.
Décret établissent le régime forestier applicable à Madagascar	Aug 28, 1913	Dez 1968	Bans all fires except pasture fires >2km from forest in well demarcated zones; these to be phased out .
Décret reorganisant le régime forestier en Madagascar	Jan 15, 1930	JOM 22nov1930	Bush and pasture fires forbidden <500m of forest. Penalty is fine of 100-2000frs and/or 1-6 months prison.
Arrêté soumettant les mises a feu au regime de la declaration prealable...	Nov. 6, 1936	JOM 21nov1936	In specified zones, all prairie fires must be announced 15 days in advance in writing.
Décret portant organisation du regime forestier	Sep 25, 1937	JOM 13nov1937	Modifies 1930 decree. All fires banned, yet officials may allow fires >2km from forest. Strengthens repressive measures.
Décret modifiant les articles 58 et 59 du decret de 1930	Dec 9, 1941	JOM 20dec1941	Modifies 1930 decree. Local communities (<i>fokonolona</i>) made legally responsible for <i>all</i> fires nearby.
Arrêté no. 1884-SE/SF	Aug 22, 1950	JOM 2sep1950	Prohibits grazing in illegally burned pastures for 6 mos. Prohibits cultivation in cut or burned state forests.
Décret No. 55-582	May 20, 1955	JOM 23feb1957	Applied to all African colonies. Fires only allowed for crop field clearance, pasture renewal or wildfire control.
Arrêté No. 25-SE/FOR/CG	Jan 14, 1957	JOM 23feb1957	Applies Decree 55-582 to Madagascar. Specifies strict rules for authorizations and opens possibility for fire ban.
Ordonnance no. 60-127 fixant le régime des défrichements et des feux de végétation	Oct 3, 1960	JOM 15oct1960	Bans wildfires and tavy. Allows crop field fires. Allows pasture renewal fires during rainy season (but only with 'exceptional' authorization during other periods). Penalty raised to 15,000 - 300,000 fmg fine and/or 6 mos.-3 yrs prison. Collectivities responsible for anonymous fires.
Ordonnance no. 60-128	Oct 3, 1960	JOM 15oct1960	Summarizes in one text all enforcement procedures for foresters.
Arrêté no. 058	Jan 7, 1961	RDM 1980	Specifies periods of legal wet-season pasture fires.
Décret no. 61-078	Feb 8, 1961	JOM 18feb1961	Applicatory decree for Ord. 60-128.
Décret no. 61-079	Feb 8, 1961	JOM 18feb1961	Applicatory decree for Ord. 60-127. Fixes the procedure for getting 'exceptional' pasture fire authorizations.
Décret no. 61-261	May 26, 1961	JOM 2jun1961	Creates financial bonuses for forest agents for enforcement.
Ordonnance 72-023	Sep 18, 1972	JOM 30sep1972	Strengthens enforcement of fire legislation (among others) by no longer accepting attenuating circumstances.
Ordonnance 72-039	Oct 30, 1972	JOM 2dec1972	Speeds up the enforcement process for fire crimes.
Ordonnance 75-028	Oct 22, 1975	JOM 1nov1975	Raises possible prison sentence to 5-10 years.
Ordonnance 76-019	May 24, 1976	Andriamampion-ona 1992	Creates the Tribunal Economique Special in order to quickly judge economic crimes, including illegal fires.
Ordonnance 76-030	Aug 21, 1976	JOM 27aug1976	Further strengthens enforcement. Authorizes villages to detain suspects; prescribes sentence of forced labor for life for lighting wildfires under certain circumstances.
Ordonnance 77-068	1977	Andriamampion-ona 1992	Moves wildfire crimes to the Tribunal Criminels Speciaux, which could theoretically give the death sentence.
Décret no. 82-313	Jul 19, 1982	JOM 7aug1982	Each cattle-raising province to create a plan of pasture burning rotations and provisions for fodder grass cultivation.
Loi no 90-033, le chartre de l'environnement	Dec 21, 1990	JOM no. 2035	"The Charter of the Environment" states that the environment is a primary responsibility of the state.
Loi no. 96-025	Sep 30, 1996	JOM 14oct1996	Legislates the contractual transfer of the management of renewable natural resources to "basic local communities".
Loi no. 97-017	Aug 8, 1997	JOM 25aug1997	Revised forest legislation. Principle of decentralization; revalidation of Ord. 60-127.
Décret no. 97-1200	1997	JOM 1dec1997	Policy document accompanying Loi 97-017, including principles of more local participation and responsibility.

Table 2. Linking fires to election years or periods of unrest: the anecdotal evidence. Are fires part of the protest, or are peasants just taking advantage of state distraction?

DATE	EVENT	FIRES	SOURCE
1947	anti-colonial rebellion	massive increase in fires and <i>tavy</i> , violence directed at Forest Service	Bertrand and Sourdat 1998; AOM mad pt//181; ANM IV.D.73/1/1
1969	cyclone and higher taxes cause general frustration	spectacular growth in bush fires	Desjeux 1979
1970	drought; peasant discontent with ruling party	doubling of fires	Mohr 1971
6 Sept. 1970	legislative elections	significant fires on election day, especially in state reforestations	ANM Vice-Pres 840
8 Oct 1972	referendum for Second Republic	"all that hadn't burned yet"	interview in Afotsara
1977, 1983, 1989, 1992	election years	more fires	Andriamampionona 1992
1991	political instability and social unrest; general strike	5-fold increase in fires in region south of capital	Rambeloarisoa 1995
		80 to 90% of all land, including almost all state reforestations, in Miarinarivo province	Andriamampionona 1992
Sept. 1995	referendum	fires 'of a political nature'	<i>Direction des Eaux et Forêts</i> annual report 1995
Oct.-Nov. 1999	communal elections	smoke and major fires across country; land aflame along road from Ambositra to Fianar.	pers. comm. M. Freudenberg, P. Schachenmann

Table 3. Specific instances when fires were probably deliberately lit to protest government actions and policies, especially with respect to protected areas. As Ratsirarson (1997: 15) wrote regarding Andringitra Nature Reserve: “if one is too severe, the reserve is burned by unknown people.” The list is certainly not exhaustive.

Location	Date	Cause	Fires	Source
Andringitra nature reserve	1927	creation of the reserve	big fire	H. Rabetaliana, pers. comm.
	Oct. 1995	major ecological research within reserve: fear of increased enforcement and losing resource access	two large fires within the reserve	Projet Andringitra; P. Schachenmann, pers. comm.
	Oct.-Nov. 1996	inauguration of park lodge with important guests	blackened all around	ditto
	Oct. 1999	inauguration of National Park, with important guests	fire within reserve	ditto; M. Freudenberger, pers. comm.
Haute Mangoro forest plantations	(1988) 1990 1991	political instability (?)	10-fold increase in fires	report, Société Fanalamanga 1992
State forestry stations and reforestation zones in Miarinarivo district	1991	general political unrest and frustration with the state	almost all were burned	Andriamampionona 1992
Haute Matsiatra forest plantations	1991-1992	general political unrest and frustration with the state	major fires in plantation forests	M. Freudenberger, pers. comm.
Andohahela nature reserve	1992	total ban on fires by Forest Service	burning within reserve	Durbin 1994
Ankarafantsika nature reserve	1994-1997	criminalization of traditional activities within reserve by new ICDP project	3 consecutive years of large fires	Bloesch 1997
	-	expansion of cashew nut plantations into villagers' pastures	burning of the savanna	Bloesch 1999

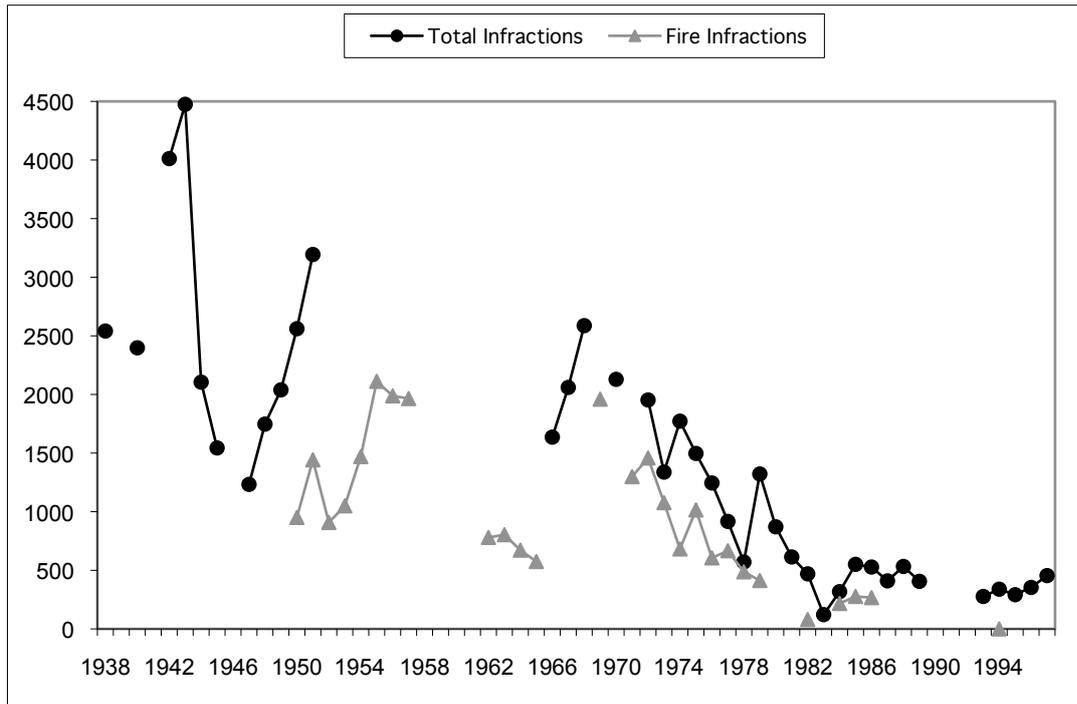
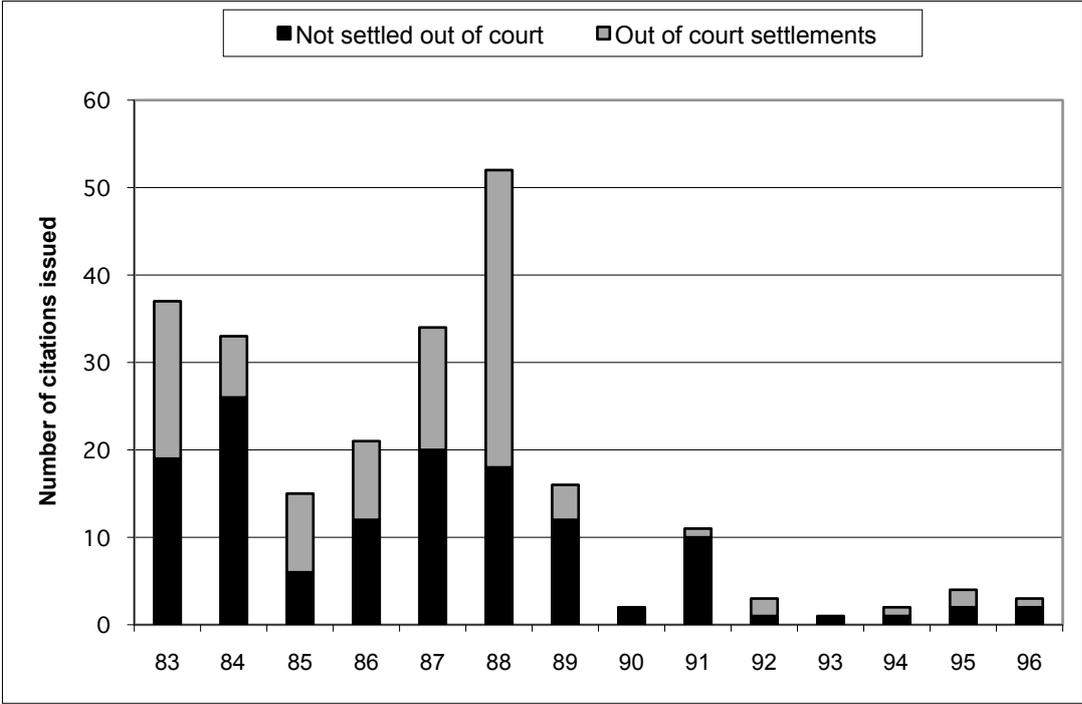


Figure 1. Enforcement of Forestry and Fire Regulations, 1938-1997. For “total infractions” (total number of forestry infractions including fires), 1938-1951 are forestry, hunting, and fishing violations (source: SSG 1953), and 1966-1997 are forestry offences (source: Rapports Statistiques, Ministère de la Justice). “Fire infractions” are the number of fire-related forestry infractions based on number of procès-verbaux filed. Sources: 1950-1965, 1984-1986: Rakatonindrina (1989); 1969-1977, 1982, 1994: Rapports Annuel, Direction des Eaux et Forêts; 1978-1979: RDM (1980).

Figure 2. Fire crimes in the Circonscription Forestier of Antsirabe, 1983 through 1996.

The chart shows that roughly half of all citations were settled out of court for e.g. payment in bricks, labor, tree-planting, or a small fine (as opposed to harsher official penalties of prison and fines); it also shows the reduced enforcement resulting from the phasing out of enforcement incentives (*primes*) around 1990. Source: CirEF Antsirabe.



FOOTNOTES