

TRADING SOLIDARITY FOR ENVIRONMENTALITY: SUBJECT FORMATION AND
INTIMATE GOVERNMENT OF FORESTS IN KAOLACK REGION, SENEGAL

BY

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THESIS

Submitted in partial fulfillment of the requirements
for the degree of Master of Arts in Geography
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2011

Urbana, Illinois

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ABSTRACT

Community-based natural resource management projects widely fail to meet their stated goals. But what do such interventions and policies actually achieve? How do they alter the practices and consciousness of the people whom they involve in management? Drawing on work on environmentalism, this thesis examines the legacy of a community-based natural resource management project in Kaolack Region, Senegal. Prior to the project, residents of this region subtly and collectively refused to comply with state forest regulation, relying on widespread solidarity to avoid being caught and sanctioned by the forest service. However, this situation changed in the 1990s with the arrival of a project known as PAGERNA. As residents became implicated in forest management, some began to develop environmental subjectivities: new ideas of self-interest and commitment to environmental protection. After the close of PAGERNA, these environmental subjectivities led certain residents to collaborate with local government officials and the forest service in order to enforce new restrictions on forest use. Management after the project took the form of a regime of “intimate government,” in which communities regulated themselves, working with state authorities. However, not all rural residents adopted environmentalist values. Some complied with restrictions only because their activities were closely monitored. Others, residents of the poorest villages, continued to resist regulation. However, these resisters found that in the new regime environmentalism had replaced solidarity; they were sanctioned by village guards and government foresters. The case of Kaolack reveals how subject formation shapes the long-term legacy of natural resource policies and projects. It shows how management systems are constituted by multiple subjectivities and how rural residents are controlled through multiple mechanisms of rule. The thesis argues that, rather than focusing on single outcomes, we must examine heterogeneous changes in people’s practices, identities, and relationships with institutions.

To Mum and Dad

ACKNOWLEDGEMENTS

The field research underlying this thesis was funded by a Fulbright-IIE grant.

I am deeply grateful to the residents of Kaolack who gave generously of their time and knowledge and who welcomed me into their homes. Without their patient guidance I would have understood little, and without their humor and warmth I would have felt lost. I thank Amath Massaer Ndour and Cheikh Dieng for hosting and supporting me. Everyone with whom I worked deserves to be thanked individually. *Yal na leen yalla fay.*

A number of friends and organizations introduced me to their professional communities and helped me find my way in Senegal. In no particular order: I thank Bara Guèye, Mamadou Lamine Seck, Mamadou Fall, and other staff at IED Afrique for opening their doors and taking me along. Without their help I literally would not have found this project. The PERACOD Forest Management teams in Dakar and Kaolack provided generous logistical support and friendly company. I thank particularly Mamadou Lamine Bodian, Marion Hergarten, Mamadou Samb, and Mamadou Varore. In addition, I am grateful to Papa Faye at the *Institut Superior de Management* for providing valuable critique on my ideas.

I have been extremely fortunate to learn from dedicated and talented teachers in my time at the University of Illinois at Urbana-Champaign. Courtney Flint convinced me I could and should do social science. Tom Bassett encouraged me to develop a paper for his Political Ecology seminar into a thesis. Brian Dill delved into the details of my case and pushed me to bring out the story they told. Jesse Ribot's understanding, encouragement, and candid advice helped me find my footing in the slipperiest parts of fieldwork and writing. Ashwini Chhatre has been a patient and challenging mentor from the day I first walked into his office. His feedback pushed me to focus on the most important ideas. These and other mentors taught me what it is to be a broad, critical thinker and a generous colleague. I have learned a great deal. The errors and confusions that remain are all my own.

I am forever grateful to my parents Derek and Judith Robinson. They taught me to love learning, to be curious about the world, and to care about others. They trusted me to find my way. As time passes, I discover their influence in all the things I do.

TABLE OF CONTENTS

Introduction.....	1
1. Community-based Natural Resource Management in the Long Term	5
Environmentalism and Subject Formation.....	6
Resistance and Hegemony.....	9
Governance “as it is”: Corruption and Syncretism	11
Environmentalism as Middle Ground	13
2. Background	16
Research Methods	16
Decentralization in Senegal.....	18
Kaolack Study Area	20
3. Forest Stalemate: State Regulation and Peasant Resistance	25
Forest Law in Senegal: Legal Framework and Practice.....	25
Everyday Resistance to Forest Regulation	29
4. Project Intervention and Community Participation in Forest Management	33
Community-based Forest Management and the PAGERNA Project	34
From Peasants to Environmental Subjects.....	39
5. After the Project: Intimate Government.....	47
From Usurpers to Collaborators: Village Guards and Foresters	48
Trading Solidarity for Environmentalism	55
Afterward: Intimate Government Gone Viral	60
6. Conclusion.....	62
References.....	66
Tables and Figures	71

INTRODUCTION

Near a village in central Senegal, an elderly man walks along the edge of a sandy field, along a line of gray-green *ngeer* bushes. He hears the sound of a machete, and turns to step into the thicket. After a few paces, he comes upon a young man in a *surur* tree, a pile of branches on the ground below him. The patrolling village guard tells the young woodcutter: “Get down! You can’t cut here. Didn’t you see the sign over there?” The woodcutter had seen the sign; he found it peculiar, but hadn’t taken it too seriously. One sees all kinds of signs. This one read: ‘*All bu nuy arr.*’ (This forest is being protected). After this point in the encounter, one of several things might happen: If the young man is apologetic, he might be escorted to the village and made to pay 2 or 3 thousand West African francs (fcfa)¹ to the village forest protection committee. If, however, he tries to run away or quarrel with the guard, his name might be passed to the district forest service agent. The agent, wearing army fatigues, will later visit the woodcutter’s home to issue a formal citation and levy a hefty fine.²

The tableau sketched above presents a small, local, and routine drama that has become common in some areas of Kaolack, Senegal. In this mostly agricultural region, village guards protect ‘forests’³ that occupy small areas and make only small contributions to residents’

¹ Approximately 4 to 6 U.S. dollars. At the time of writing, 500 fcfa equals approximately 1 U.S. dollar.

² A standard fine for a minor infraction like lopping branches can range from 15,000 to 30,000 fcfa (West African francs), equivalent to about 30 to 60 U.S. dollars. This amount would constitute a severe financial strain for most farmers in Kaolack region. Many would need to sell a goat or reduce seeds and fertilizer inputs in the following agricultural season.

³ Throughout this thesis, I use the term ‘forest’ to refer to a diverse set of non-agricultural land-uses, and to vegetation including trees, shrubs, grasses and, at times, bare soil. Here the term ‘forest’ is shorthand for the social and political implications of this land type rather than a characterization of the vegetation present on the site at any one moment in time.

incomes. Much social science research on environmental protection has focused on the establishment of parks to safeguard what are perceived as globally important reserves of biodiversity (i.e. Neumann 1998). Much has also been said about organized social movements residents mount in opposition to the appropriation of their land and resources for conservation projects (i.e. Agrawal 2005a). The case of Kaolack is substantially different. The ‘forests’ in question are neither important in biodiversity terms, nor have they sparked public confrontations. Yet to the actors involved – village guards, woodcutters, and other rural residents – Kaolack’s forests represent an important locus of thought and action. Further, villagers’ efforts to protect forests are a new element in the history of Kaolack, and set the region apart from other areas of Senegal.⁴ In other places and at other times, few villagers would have considered guarding forests, or reporting the actions of neighbors or relatives to the forest service. This thesis is an effort to unpack changes in the governance of forests catalyzed by development projects and community-based management, both common features in the current landscape of development assistance in Africa. However, rather than focus on the immediate outcomes of such interventions, this thesis situates them in an ongoing history of forest governance. It pays close attention to changes in the actions, values, and identities of rural residents.

This thesis examines how communities became involved in forest management in Kaolack Region. Chapter 1 sets the stage by introducing theories of the relationships between communities and state authority, between resistance and incorporation, and between regulatory projects and practices. Drawing on the environmentality framework (Agrawal 2005a, 2005b), it seeks to a conceptual middle ground that avoids dichotomies and allows exploration of multiple facets of environmental governance change. Chapter 2 describes Kaolack Region, the setting in which the empirical story unfolds. It also outlines the

⁴ In contrast, in the more densely forested eastern regions of Senegal projects and policies have excluded rural residents from decision making about forest management. For examples of the extensive research in this region, see Ribot 2001, Faye 2006, Bandiaky 2008.

methods used to construct this story. Chapters 3 through 5 narrate the story, each focusing on one period in the history of Kaolack forest regulation. Chapter 3 examines the situation prior to 1990. At that time, the forest service dominated regulation of Senegal's forests, using a legal model developed by the French colonial government. However, the tight restrictions this model imposed created an enforcement task that the forest service could never match. Violations of the official codes were rampant, and villagers practiced widespread and subtle resistance to get around regulations and reduce sanctions. Resistance was made possible by a network of solidarity and collusion; although the forest service tried to encourage peasants to inform on their rule-breaking neighbors and family members, they almost never did. In sum, the forest service and rural residents were locked in a stalemate over forest regulation. Chapter 4 describes how this stalemate was broken in the 1990s, when the PAGERNA development project sought to establish community-based forest management in many districts in Kaolack. PAGERNA designated village-based committees and guards to regulate small areas of protected forest. It created new territories on the landscape, as resources that were once open-access became commons held by individual villages. Further, community-based management entailed changes not just in institutions, but also in people's identities. Some villagers, through their involvement in monitoring forests and enforcing rules, began to think about the environment in a new way: they came to see forest resources as a common good that needed protection. In other words, participation in forest regulation produced new environmental subjectivities. Chapter 5 focuses on the legacy PAGERNA left behind after its close. No longer supported by project activities, village leaders did not abandon regulation, nor did they struggle for authority with the forest service. Instead, they developed collaborative relationships with foresters. Their cooperation established a governance regime that regulated forests more effectively and more strictly than before, a regime that can be characterized as 'intimate government,' following Arun Agrawal (2005a, 2005b). Yet intimate government in Kaolack did not mean that all residents were involved in regulation in the same way. While some residents developed environmental subjectivities, the majority complied with regulations not because of environmental commitments but because they were being watched by their

neighbors and relatives. A third group of residents, located in poor villages, refused to comply with regulation entirely. They continued to resist regulation and to use forest resources to meet household needs. However, environmental subjectivities had eroded the solidarity between villages that had previously helped these resisters avoid sanctions. They were thus persecuted by guards in neighboring villagers, local government, and the forest service alike. Intimate government thus made forest regulation more effective, strict, and consistent, undermining the everyday resistance strategies of the poor. Far from producing a single outcome, therefore, intimate government entailed multiple subjectivities and modalities of power. The thesis concludes by examining the importance of environmental subjectivities to understanding changing governance of natural resources.

1. COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT IN THE LONG TERM

A large and interdisciplinary literature examines the various ways communities are implicated in formal environmental management in developing countries.⁵ Over the past 30 years, this literature has cast a critical eye on trends in international development towards community-based, participatory, and decentralization approaches to natural resource management. It has made one point abundantly clear: in the majority of cases, community-based management fails to achieve the social, economic, and political goals set forth for it (Brosius et al 1998, Agrawal and Gibson 1999, Kellert et al 2000). For example, community-based initiatives have failed to devolve real powers to local authorities (Schroeder 1999), or have devolved powers to institutions that are not representative of nor accountable to rural populations (Ribot 2007). One strand of community-based initiatives includes those that are propagated by donor-funded development project structures. In West Africa, despite legal reforms promoting decentralization in some countries (Ribot 1999b, Post and Snel 2003), development projects remain the dominant means through which change actually occurs in practice (e.g. Ribot 2009a; Gray 2006). Project-based approaches have been criticized because they may fail to generate lasting institutional change on the ground (Manor 2004, Poteete and Ribot 2011) or produce change that promotes clientelistic relationships (Blundo 1995). Much critical research has thus diagnosed what community-based management has *failed* to achieve. Yet a complementary question can be posed: What have such projects actually achieved, regardless of their stated intentions?

Whether they achieve (or even attempt to achieve) their goals, many community-based natural resource management projects have lasting effects on the course of governance. The lasting impacts of community-based projects have been examined through diverse

⁵ For a recent review of the various literature on community-based, participatory, and decentralized management, see Tole (2010).

theoretical lenses, often focusing on how they have led to redistributions of power within communities. Community-based management has led to elite capture of institutions at the expense of ethnic minorities (Gray 2006), women (Bandiaky 2008), or marginalized communities (Sivaramakrishnan 2000). Other work has examined community-based interventions through a historical lens, showing how the places they implicate are not blank slates, nor vessels for timeless indigenous systems for protecting nature (Agrawal and Gibson 1999). By setting community-based management in historical context, it is clear that these interventions are part of long-term, ongoing histories of governance change. Rather than occurring outside existing centralized management, community-based regimes draw upon, compete with, and connect with state institutions in complex ways. Further, community-based management does not have the last word: governance continues to evolve after the interventions that create community institutions. This historical perspective has been advanced in frameworks that make changing governance the heart of analysis. We now turn to three research areas that examine processes of long term and systemic governance change.

Environmentality and Subject Formation

In his book *Environmentality*, Arun Agrawal contributes a sweepingly integrative framework to the study of changing natural resource governance, interrelating work on decentralization, community politics, and subject formation (2005a, 2005b). Drawing on and modifying Foucault's concept of governmentality (1991), as well as subsequent work (e.g. Dean 2010 [1999]), Agrawal defines environmentality as "the knowledge, politics, institutions, and subjectivities that come to be linked together with the emergence of the environment as a domain that requires regulation and protection" (2005a, p. 226). Drawing evidence from a 100-year history of forest management in Kumaon, India, Agrawal traces how the colonial Indian forest service, faced with fierce and widespread protest and resistance to its regulations, established a decentralized system of village forest councils. He defines three kinds of relationships that link the forest service, village councils, and

local residents, and labels them, respectively: 'governmentalized localities,' 'regulatory communities,' and 'environmental subjectivities.' The first relationship describes the institutional structure through which village councils were bound to forestry administrators in a way that encouraged them to implement the forest service's regulatory agenda. The second relationship, 'regulatory communities,' identifies how village councils regulated the forest use activities of local residents, producing more effective and precise monitoring and sanctioning. This framing draws on Foucault's classic analysis of surveillance and self-regulation (1977). Finally, in 'environmental subjectivities,' Agrawal argues that local residents themselves became implicated in forest governance. As they participated in regulatory practices, villagers began to think about their relationship to forests in a new way. They came to think and act as 'environmental subjects' and were more willing to support forest regulation. The above three relationships are linked through the concept of 'intimate government,' which describes a form of governance in which state bureaucracies, local authorities, and rural residents collaborate on the project of forest regulation. Although he never defines the term explicitly, Agrawal characterizes how it functions:

Intimate government in Kumaon works by dispersing rule, scattering involvement in government more widely, and encouraging careful reckoning of environmental practices and their consequences among Kumaon's residents. Actors in numerous locations of environmental decision making work in different ways and to different degrees to protect forests (2005b, p. 178).

He contrasts intimate government with "government at a distance," which involves homogenizing institutions, social relations, and knowledge across space to facilitate centralized rule. In intimate government, the state channels pre-existing power relationships in communities toward new ends, such as the protection of the environment (2005b, p. 179). In this respect, intimate government knits together the three components of the environmental framework. It shows how the state project of regulating forests

through communities (governmentalized localities) was dependent on community-level politics (regulatory communities) and self-regulating subjects (environmental subjectivities). In this thesis, I use and interrogate intimate government in order to understand changing regulation and subjectivities in Kaolack. To do so, we must first look more closely at Agrawal's analysis of environmental subjectivities.

The emergence of environmental subjects is the lynchpin of Agrawal's analysis of intimate government. Environmental subjects are people who "come to care for, act, and think of their actions in relation to something they define as the environment" (2005a, p. 164). Agrawal traces how residents who at one time opposed or resisted forest protection became supporters and participants, and even demanded *more* regulation than state authorities had been able to provide (Agrawal 2005b, p. 171). Controversially, he argues that whether a person became an environmental subject was not driven by their pre-existing social identities based on class, gender, or caste group. Instead, the type and intensity of participation in daily regulatory practices (such as elections, forest monitoring, and financial contributions) shaped the environmental subjectivities people developed. Rather than environmental values convincing people to participate in regulation, it was participation that led people to develop these values. They did so by coming to see forests as important contributors to individual and collective self-interest (2005b). In this regard, Agrawal's findings are not anomalous; others have also found that ideological and cultural factors may be more important than structural position in explaining political orientations and behaviors. Dennis Galvan (2004) proposes a process through which opportunistic engagement with a new ideology alters people's sense of self-interest. While people may initially adopt individual elements of novel value systems in pursuit of their existing conception of self-interest, over time they find themselves enmeshed in the system's cohesive logic and begin to act in ways that change how they think of self-interest (p. 103). While Agrawal emphasizes the role of participation in altering subjectivities, he also admits that structural location shapes who is able to participate in the first place (Agrawal 2005b, p. 166). Yet, although Agrawal acknowledges the possibility that intimate government may produce different kinds of subjectivities, it is not where his focus lies (Mawdsley 2009).

By the end of Agrawal's account, the reader is left with the impression that community-based management has sunk roots to the depths of Kumaoni village society. Village councils and environmental subjects are ubiquitous and incorporated into a project of forest regulation that was designed by the state. Yet Agrawal's story also reveals traces of non-participation. He acknowledges that in many villages, forest councils never existed or have gone defunct. Even in villages where monitoring and enforcement are strongest, residents regularly break the rules (2005a, p. 151-2). Furthermore, the conditions that the forest service imposes are in many cases so strict as to be unimplementable.⁶ Thus, despite their best efforts, village forest councils find themselves unable to extinguish illegal activities (2005b, p. 171). Although the devolution of forestry regulation to village councils in Kumaon was able to overcome organized, inter-village protests, it has been less effective at countering another form of resistance: one that is dispersed, individual, and difficult for authorities to detect. We now turn to the classic accounts of such everyday forms of resistance.

Resistance and Hegemony

In his classic book *Weapons of the Weak*, James C. Scott describes a set of strategies used by subordinate groups to resist domination and appropriation by elites (1985). Collectively, these strategies constitute what he calls "everyday forms of resistance." Drawing on in-depth ethnographic fieldwork in Malaysia, he catalogues a host of everyday resistance practices, including poaching, foot-dragging, under-delivering, hiding, and flight. What is characteristic about these practices is that they inhibit and interfere with exploitative production arrangements and oppressive policies *without* challenging the dominant ideological framework. Everyday resistance is small-scale, off-the-books, and difficult for

⁶ For example, the provision that councils must collect the signatures of three forestry administrators before harvesting more than one tree per year (Agrawal 2005a, p. 117).

states to monitor. The poor must resist in these hidden ways because they can ill afford the backlash that states and elites mete out in response to overt political action. This is not to say that everyday resistance is purely individual and atomized; indeed, it is successful precisely because it is practiced ubiquitously by laborers and peasants, and backed by informally organized collusion. But what makes widespread collusion possible in the absence of formal organization? Scott seeks to answer this question in *Domination and the Arts of Resistance* (1990). He argues that subordinates' acts of resistance are based on shared ideologies, which he calls the 'hidden transcript.' While subordinates may act in accordance with dominant ideologies in public settings, Scott insists they never genuinely accept them. Behind the scenes they mock elites and celebrate rule-breakers. While extremely violent and far-reaching means of dominance (i.e. slavery, total institutions, etc.) can drive the hidden transcript deep underground, they can never completely extinguish it.

Scott's provocative analysis sparked diverse debates over the strength and limits of ideological hegemony, resistance practices, and subordinate consciousness (e.g. Ortner 1995, Neumann 1998, Greenhouse 2005, Sivaramakrishnan 2005, Homes 2007). Timothy Mitchell makes a particularly well-developed case against Scott's framework (1990). Following a governmentality logic, Mitchell argues that Scott creates an illusory autonomous realm of resistance for peasants by excluding from consideration precisely the forms of domination which everyday resistance cannot offset. He argues that domination can define the limits of the possible for subordinates, and can generate subjects that act autonomously in a way that reproduces the structure of domination. Mitchell's and others' work on subject formation (Galvan 2004; Agrawal 2005a, 2005b; Snodgrass 2008) exists in tension with Scott's position on the hidden transcript. Yet this tension can be partially resolved by recognizing that "subordinates" encompass multiple identities and subject positions (Ortner 1995). These positionalities provide different opportunities and consequences for both incorporation and resistance. Thus, we must look closely at particular empirical contexts and places to understand who becomes incorporated into projects of government, and in which partial and limited ways. A detailed, pluralist

approach draws our attention not merely to lofty projects of rule, but to the messy contextualized ground where these projects take shape.

Governance “as it is”⁷: Corruption and Syncretism

Governance “as it is” in real places - be these offices of government bureaucracies or meetings in village squares - differs starkly from the ways it is characterized by government planners or governmentality theorists. In practice, attempts to incorporate people in their own subjugation (as well as attempts to resist such projects) are incomplete, contingent, and context-specific (Li 2007). The processes through which people in particular places alter laws and institutions to produce governance-as-it-is are thus a critical piece of long-term change. This section considers two areas in which complex, local governance practices have been studied. The first area of work, focusing on everyday corruption, considers informalization of formal procedures in government bureaucracies providing public services. The second area, labeled institutional syncretism, is broader. It considers how historical memory and institutional experience together influence people’s creative attempts to alter institutions.

In one sense, corruption is ubiquitous. Laws and regulations, no matter how detailed or comprehensive, never fully determine the interactions and practices through which they operate in concrete local settings.⁸ Some observers describe the disconnect between law and practice as ‘corruption’ without intending to pass judgment on the (un)desirability of the diversity of practices encompassed by this term. They have sought to re-think corruption in ways that go beyond previous conceptions that focused on what it was not, i.e. ‘corruption is not good governance’ or ‘corruption is the absence of strong state

⁷ I derive this term from Paul Robbins’ discussion of “institutions as they are” (2005).

⁸ For a review of the Africanist literature on corruption, see Blundo (2006b).

institutions.’ Instead, these scholars view corruption as governance “for real” (Blundo and de Sardin 2006a, Blundo and Le Meur 2009) or “as it is” (Robbins 2000, Robbins et al 2009). Like the research on community-based natural resource management described at the beginning of this chapter, recent studies of corruption focus on what corruption *does* achieve. Results indicate that corruption has heterogeneous impacts. In the context of natural resource management, it can undermine pro-poor formal procedures (Robbins 2000) or can allow the poor to access needed resources through bribes that are less costly than official access fees (see Chapter 3, below). Corruption can also allow for greater flexibility than formal rules when dealing with diverse user groups and non-equilibrium environments (Robbins et al 2009). Since its impacts are so diverse, understanding its implications requires careful examination of official procedures, daily practices, and the wider field of social relations in which they are embedded (Blundo et de Sardin 2006b, p. 81). Again, contextualized empirical research is required to understand how official projects deviate from formal accounts, what drives such deviations, and what implications they hold for governance regimes. An empirically-based perspective on how formal institutions are modified in practice can be fruitfully connected to other broad, multi-dimensional approaches to institutional change.

Institutional syncretism offers a second expansive and flexible framework for understanding governance-as-it-is. The syncretism framework examines institutions as combinations of features from different social-historical settings, including rules, norms, and historical memories (Galvan and Marcus 2003, Galvan 2004, Galvan and Sil 2007, Galvan 2007). Syncretism examines how people creatively engage with and modify institutions originating in other settings. To modify imported institutions, syncretism holds, people draw on their experiences of past institutions, social relations, and historical memories. Engagement with imported institutions can in turn alter people’s understandings of their own experiences and histories. Rather than combining stable, discrete pieces, syncretism entails mixing elements that are subject to contestation and multiple interpretations even within the social setting in which they developed. The hypothesis underlying the syncretism approach is “that syncretic institutions, whether

deliberately engineered from above or emerging through incrementally altered practices from below, will generate more viable, durable, and legitimate institutions over the long run than... borrowed or imposed institutions... without significant modification (Galvan and Sil 2007, p. 9). Adopting a more normative stance in other discussions, some authors propose that syncretism is more complete and viable when non-elites have the discretion to modify the full range of institutional elements, rather than being restricted to only formal procedures (Galvan and and Marcus 2003). These hypotheses aside, syncretism describes the processes through which institutions are formed, rather than the outcomes of these processes. Syncretic institutions will not necessarily function under logics of legal-rationalism, democratic representativeness, or transparency. The frameworks' authors propose, however, that they may establish durable collaborations between state and local actors based on new and hybridized procedures, rules-in-practice, and values (Galvan and Marcus 2003, p. 140).

Environmentality as Middle Ground

By connecting the disparate frameworks described above, I intend to frame a middle ground in which to explore changing relationships between state institutions and rural residents in environmental governance. I follow governmentality scholars in attempting to avoid a dichotomy between ideological hegemony and resistance (Foucault 1977). However, I diverge from some studies (e.g. Mitchell 1990) by proposing that hegemony and resistance can be analytically useful as *separate* categories. I do not insist that these processes necessarily operate simultaneously, or that they are constituted by a singular movement of power. Similarly, I avoid asking whether resistance is *always* possible, and whether hegemony *always* operates. Instead, I start with the assumptions that involvement in practices of rule *sometimes* shapes people's thoughts and identities and that subordinate groups *sometimes* resist domination in practice and consciousness. Rather than the totalizing logic of 'projects of rule,' I focus on the incomplete and contingent ways these projects are manifest in practice.

Like Agrawal (2005a), I focus on how environmental subjectivities vary across people who are located in different social positions and involved in regulation in different ways. However, I operationalize this focus differently. While Agrawal uses survey methods that measure the *degree* of support people express for environmental protection,⁹ I use an ethnographic approach to identify multiple dimensions to environmental subjectivities. Especially important are the ways people interact with one another and with institutions: in other words, their position and participation in a regime of governance. Furthermore, focusing on governance-as-it-is, I seek to understand how centralized attempts to create subjects are partial and contingent, resulting in diverse, incomplete, or even contradictory subjectivities across (and even within) individuals. A focus on multiple subjectivities can lead to a more precise understanding of the mechanisms and outcomes of subject formation. Furthermore, this focus reveals how certain forms of resistance can continue even as environmental regulation becomes dispersed and internalized, a question not addressed by Agrawal. Finally, syncretism and governance-as-it-is draw attention to how people draw on multiple subjectivities to engage and reshape institutions, further contributing to the contingent and context-specific nature of governance. In this thesis, I endeavor to show how intimate government is possible in a middle-ground of partial resistance and partial subject formation.

The three frameworks discussed above direct attention to the interactions of material and ideological processes, as well of actors in the 'state,' 'civil society,' and 'communities.' They remind us that governance encompasses not only official procedures and projects, but also the contingent and informalized practices through which actors modify and apply these projects. In the empirical analysis that follows, I draw on Agrawal's concept of intimate government to describe a form of rule characterized by dispersed authority and sustained

⁹ Agrawal uses interval variables to measure individuals' support for environmental protection and willingness to contribute to management institutions. Galvan (2004) similarly uses an index of syncretic orientations, composed of four locally-meaningful rank variables.

by the emergence of different subjectivities and different forms of incorporation. I interrogate the extent to which the intimate government Agrawal describes in Kumaon may apply in Kaolack, a place characterized by very different landscapes, people, and institutions.

2. BACKGROUND

This background chapter sets the stage for the analytic story to come. It first outlines the research methods used to examine changing governance of forests in Kaolack. Next, it briefly describes Senegal's national decentralization laws, which frame the interactions of the forest service, rural residents, and development projects. Finally, it sketches the historical, biophysical, and political economic setting of Kaolack Region, and anticipates how this context shapes the story of community-based forest management.

Research Methods

The story presented here is based on fieldwork I conducted in Kaolack Region, Senegal between May and December 2011. Over this period I undertook repeated, extended stays in villages in three rural districts. During these visits, I observed at and participated in forest monitoring and forest use, rural council meetings, and daily household activities. Furthermore, I conducted 97 semi-structured interviews with a diverse set of informants, strategically selected across social categories in an attempt to capture a diversity of viewpoints on forest management practices and institutions (**Table 1**). I made a conscious effort to speak with not only residents who were active in forest regulation, but also those who participated little and had less interest in it.

In addition to working in villages, I undertook observations of two environment-focused non-government organizations. During this time, I observed and participated in office work and field visits, interviewed staff, and consulted the organizations' records and archives. Observing this context allowed me to understand the assumptions, motives, relationships, and tools employed by development projects working on natural resource management. Since the organizations I observed existed in a similar context to PAGERNA (and in fact employed several former PAGERNA staff) I used these observations to make informed

hypotheses about the functioning of the PAGERNA project under study here. I also sought out and interviewed former PAGERNA staff in order to reconstruct the project's history.

In addition to residents and NGOs, I also studied the Senegalese forest service. I interviewed 9 forest service employees at diverse levels in the hierarchy: rural-based agents in 3 districts, departmental officers, staff of the regional forestry office, and several staff at the national direction. I sought to understand administrators' and local agents' perspectives on specific project activities and on community-based forest management in general; as well as to understand their practices in the course of their work.

To complement and contextualize interview and observation data, I consulted records and archives in several locations. I conducted a quick review of reports and evaluations of past forestry projects held in the archives of the *Centre Forestier de Recyclage à Thies*, which provided a rough idea of the history of forestry projects in Kaolack and Senegal since the 1970s, and allowed comparison of the project considered in this thesis with others. In addition, I examined records of forestry infractions and sanctions at several forestry offices. I also studied the records of one rural council, and the formal and informal written records kept by village forest guards wherever I found them. One particularly insightful source of information was the *animation* materials created by PAGERNA to use during village training sessions. Throughout these reviews, I operated on the assumption that texts and records tend to hide at least as much as they reveal.

Throughout fieldwork, I kept a research journal to track emerging interpretations and hypotheses. I analyzed fieldnotes using an iterative strategy to identify qualitative themes and to warrant interpretations. I coded fieldnotes in a simple fashion using Microsoft Word.

I use pseudonyms to refer to people and places throughout the thesis in order to preserve participants' anonymity.

Decentralization in Senegal

Since Independence in 1960, Senegal has gone farther than almost any other West African nation in creating a legal framework for democratic decentralization (Ribot 1999b). This framework came into being through several parallel processes. In the early days of Independence, president Léopold Sédar Senghor pursued an ambitious land tenure reform program, purporting to undo what he saw as a colonial-imposed system of inequitable landholdings and return to an authentic African socialist system (Galvan 2004, p. 128). The National Domain Law of 1964 declared all land the property of the state, but recognized farmer's use-rights to land they cleared and cultivated. Under the National Domain Law, the vast majority of rural land falls into one of two legal categories: land gazetted under the authority of the central administration ('private' and 'public' state domain), and national domain land. Centrally administered land includes gazetted forest reserves (*forêts classées*) and national parks. Throughout this thesis, the focus will be on national domain land, and on the reforms and practices that shape management of forest resources in this category.

The next stage of decentralization entailed the addition of a new administrative-territorial unit: the rural community (*communauté rurale*). The rural community was nested within existing administrative divisions inherited from the colonial period. Each rural community was supposed to contain approximately 30 villages. Senegal's national territory was thus divided (from largest to smallest unit) into: regions, departments, arrondissements, and rural communities. Rural communities were to be governed by rural councils, whose membership derived partially from local elections, and partially through appointment by agricultural cooperatives.¹⁰ Continuing the French *tutelle* system, rural councils were supervised by *sous-préfets*, centrally-appointed civil servants at the arrondissement level,

¹⁰ Three-quarters of councilors are elected from the lists of nationally-recognized parties, while one quarter are appointed by the boards of cooperatives. While elections were initially winner-take-all, in 1990 proportional elections were introduced (Post and Snel 2003).

who were in turn supervised by *préfets* at the department level. While in theory *sous-préfets* only check that rural councils follow procedures, in practice they have substantial influence over council decision-making (e.g. Ribot 2009a). The hierarchy within government agencies is also linked to the administrative-territorial units. In the national forest service (*Services des Eaux et Forêts et de Chasse*), there are local agents (*chef de brigade*) at the arrondissement level, sector heads (*chef de secteur*) at the department level, and inspectors (*inspecteur regional*) at the regional level.

After their initial creation, rural councils were assigned very few decision-making powers and provided very few resources. In 1978, rural councils were charged with allocating land use in the national domain and resolving land use conflicts. However, councils were ineffective and their decisions were often superseded by the *sous-préfet* (Blundo 1997). Then in 1996, under pressure from international donors, the national assembly passed a sweeping decentralization law that devolved 9 areas of competency to rural councils, including management of natural resources in national domain lands (RdS 1996). Under this law, rural council presidents pass local laws based on deliberations by the full council. The council president appoints commissions that are responsible for doing relevant studies, proposing laws, resolving conflicts, and dealing with intermediaries such as NGOs. Today, rural councils remain desperately under-resourced. While certain council commissions receive small budget items from the central government, the environmental commission does not, often leaving it effectively powerless. Today, rural councils remain weak and under-resourced. State administrators and development projects regularly bypass or subvert council decision-making (Ribot 2009a), and councils have little legitimacy in the eyes of rural residents (Galvan 2004). Having briefly outlined the framework of decentralization in Senegal, we now focus in on the region in which the analytic story will unfold.

Kaolack Study Area

The area that I will refer to as Kaolack (not to be confused with the urban center of Kaolack, which I will refer to as Kaolack City) lies on the border of several administrative, historical, and agro-ecological zones (**Figure 1**). It occupies the northwestern quadrant of today's Kaolack Region, near the border with Fatick Region.¹¹ In addition to straddling today's administrative boundaries, the area sits near the edge of two pre-colonial states: Siin and Saalum. Kaolack also sits on the edge of two agro-ecological zones, lying between the semi-arid area known as the central peanut basin stretching north to Diourbel and Touba and the more humid southern area reaching south and southeast to the Gambian border.¹² Multiple ethnic groups live in Kaolack. It is conventionally associated with Serer¹³ Saalum groups, but Serer Siin, Wolof, and Fulbe groups also live in the area. Kaolack's location along multiple borders poses a challenge for classifying it in a single historical setting. The brief depiction that follows draws on descriptions of neighboring zones and on observations collected during fieldwork.

¹¹ In fact, the classification of this area has undergone a dizzying series of changes, as regional borders have been redrawn over the years. Although today located in Kaolack Region, two of my three research sites were until 2008 part of Fatick Region.

¹² Kaolack itself reported an average annual rainfall of 608 mm over the past 30 years. However, inter-annual fluctuations in the Sahelian climate are dramatic, and annual rainfall has varied between about 400 and 800 mm over the past 50 years.

¹³ The seven linguistic and cultural groups collectively referred to as Serer likely originated in the same area of northern Senegal. Differing incorporation into pre-colonial states and subsequent collective memory help differentiate the groups (Galvan 2004, p. 39).

Kaolack has long been a site of tension between centralized states, local authorities, and rural residents.¹⁴ States emerged after the area was conquered in the early fifteenth century by an ethnically Manding group known as the Gelwaar. The Gelwaar formed alliances and inter-married with Serer elites, producing a Serer-speaking ruling class (Pélissier 1966). This ruling class allowed village-level land priests known as *laman* to retain control over land management in their territories (p. 216). In the first decades of the twentieth century, the French colonial government extended its influence into Kaolack. The Gelwaar rulers by and large cooperated with the colonial government, maintaining their authority by becoming regional administrators (*chefs de cercle*) in the colonial hierarchy. After Independence, Kaolack residents did not forget the Gelwaar. They continued to resent Independent regional administrations as unaccountable representatives of an extractive central state (Galvan 2004). Against this political history, I now sketch the basic traces of the landscape and land-based economy of Kaolack.

The French colonial state perceived Serer land management practices as the “ideal” peasant agrarian system in West Africa (Pélissier 1966, p. 183; Galvan 2004).¹⁵ Under this system, *laman* land priests monitored land use in their territories and enforced a multi-year rotation in which land was systematically used to farm millet and sorghum, put to pasture, and fallowed. This system maintained soil fertility amidst the highest population densities in Senegal (Pélissier 1966, p. 184). In response to intense pressures from the colonial government to produce cash crops, the Serer quickly integrated peanuts into their crop rotation. Kaolack thus became the productive heart of the peanut basin during late

¹⁴ Although Kaolack lies within the former boundaries of Saalum, in many ways, land-use and ecological conditions more closely the densely settled Siin than the scattered populations and open pastures of eastern Saalum. One observer has considered the Saalum state marginal in comparison to Siin as a result of these conditions (Pélissier 1966). Certainly, Saalum is less well studied.

¹⁵ Indeed, state services, development projects, and urban-based observers still idealize this “lost” land tenure system. See how projects deployed this narrative in Chapter 4.

colonial rule. However, in today's Kaolack, the fallowing that was part of the former system is very rarely practiced. Some observers have argued that the practice was eliminated Senghor's land reforms destabilized land tenure (Galvan 2004). Regardless of the cause, oral histories describe a dramatic expansion of cultivated area in Kaolack between 1900 and 1960 and the disappearance of fallow land.

Today, Kaolack is densely settled and dominated by agriculture. Villages are often small, with less than 400 residents, and close together, separated by only 1 to 5 km. Although most of the area is occupied by fields, oral accounts indicate that there is substantially more uncultivated land today compared to forty years ago. The change is attributed to vastly reduced government support for agriculture, falling soil fertility, and substantial temporary and permanent out-migration. In addition to abandoned fields, another class of uncultivated land exists in today's Kaolack: narrow bands 50 to 200 m wide crisscross the region and connect villages, small pastures, and watering points. Known in Wolof as *saawo*, these 'corridors' allow village-based livestock to move to pasture and water during the agricultural season, reducing the risk of animals damaging crops. The interconnected network of *saawo* also allows transhumant pastoralists to move large herds across the region, traveling between the extensive, arid pastures of Djolof in northern Senegal and humid regions south and east of Kaolack. While village chiefs and rural councils prohibited farming in the *saawo*, they did not regulate use of wood, fodder, or fruits; vegetation in the corridors constituted an essentially open-access resource. Residents report that by the 1990s, the *saawo* were devoid of trees and shrubs, covered by herbaceous plants during the rainy season and barren soil during the late dry season.

Kaolack residents' livelihoods have changed substantially in the past fifty years. In the 1960s, French anthropologist Paul Pélissier concluded that the Serer eschewed the rural-to-urban migration and non-agricultural activities pursued by Wolof and Fulbe groups of Senegal (1966, p. 190). Such a model no longer holds today. Households in Kaolack employ multiple and shifting livelihood types. While the vast majority of households invest some of their assets in agriculture, most also pursue other strategies. Members of many households

pursue day labor, seasonal employment, and education in nearby urban centers. With increasing migration and steady economic and political decline in rural areas, it has become common wisdom that a household that relies solely on agriculture and livestock is a poor one. As we will see, it is the poorest households that rely on exploiting Kaolack's meager forest resources.

The dominance of agricultural land-uses makes Kaolack Region marginal for forest resource production for the national market. While in much of eastern and southern Senegal forest cover is dense and forestry policy overwhelmingly favors urban-based merchant elites (Ribot 1995, 2001, 2009; Post 2003), forest resources in Kaolack are sparse and of low value. The forest service closed commercial production of wood products (including charcoal, firewood and construction wood) in the region in the 1980s, based on the perception that tree resources in the area were exhausted (Bodian and Jorez 2009). By this time, it is likely that major commercial interests had long since departed for regions with denser volumes of standing wood (Ribot 1999a).¹⁶ Small producers, however, continued to work clandestinely, especially in forests near the towns of Keur Sosé and Gossas (Goossens et al. 2007). Moreover, in addition to those who specialize in forestry, many households practiced occasional, small-scale woodcutting. Proximity to urban markets in which wood products hold relatively high value allowed residents to market products by the cartload and to avoid detection by law enforcement. As will be detailed, the harvesting and marketing of forest products remains widespread in Kaolack, but is primarily pursued by the poorest households. Better-off households avoid direct involvement in woodcutting; the potential earnings are too low and the risks of being caught and sanctioned too high. Yet many households with secure incomes in most years

¹⁶ In fact, it was likely the low value of the remaining forest resources that made a closure politically feasible. Charcoal patrons have been able to secure access to tree stocks that are commercially valuable regardless of state policy, through non-legal means (Post and Snel 2003).

rely on woodcutting after failed agricultural seasons and in other periods of crisis.¹⁷ In sum, rural Kaolack is characterized by dense agriculture, sparse forest resources, and small-scale forest use. This situation means that the stakes of forest management are low for national governments and powerful private enterprises, but they are high for poor residents. As we will see, this political economic context is crucial to understanding the outcomes of community based forest management. We now turn to the story of how forest governance was transformed in Kaolack.

¹⁷ Research on common pool resources has found that the rural poor are especially dependent on common-property forests, and their dependent increases during times of crisis (Chambers and Leach 1989, McSweeney 2004).

3. FOREST STALEMATE: STATE REGULATION AND PEASANT RESISTANCE

Prior to the 1990s, the contours of forest regulation in Kaolack Region had remained unchanged for nearly seventy years. State regulation criminalized the forest use activities of individual residents, and the forest service dominated monitoring, enforcement, and sanctioning.¹⁸ Policies to encourage rural residents to incorporate themselves into this system had been largely unsuccessful. In fact, residents employed everyday strategies of resistance to avoid forest restrictions: they cut trees in national domain and gazetted forests, ignoring the official permitting system. Further, peasants acted in solidarity to leave infractions unreported and hide rule-breakers from forest service agents. Faced with sanctions, they drew on social networks and client-patron relations to avoid or reduce fines. None of these strategies challenged the legitimacy of the forest service to enforce forest regulations. In combination, however, they allowed peasants to avoid a substantial portion of the hardships these regulations threatened to impose on them.

Forest Law in Senegal: Legal Framework and Practice

Since Independence, forest regulation in Senegal has been the prerogative of the national forest service. Policy has been dictated by the central government administration, and designed to uphold the interests of the merchants who control the production and transport of high-value forest products such as firewood, charcoal, and resins (Freudenberger 1992; Ribot 1995, 2001). Forestry regulation has been based on a division

¹⁸ This is not to claim that forest protection was the *only* state project. Indeed, many other state policies have worked at cross-purposes to forest protection. Agricultural policies such as the promotion of animal-traction-driven cash crop agriculture have likely contributed far more to the disappearance and degradation of forest cover than have local uses of tree resources.

between subsistence and commercial use since the French West Africa Forestry Law of 1935. This colonial law required permits for the transportation and sale of forest products, which was restricted to companies owned by French-literate citizens of the *communes* (French-ruled urban centers). African residents of rural areas were restricted to limited and subsistence use of forest resources. This division between permit-regulated commercial activities and non-permitted but limited subsistence use has persisted to this day, with little modification (Ribot 2001), although Senegal has since revised its forest code twice. In 1994, a new Forest Code was written in response to the international trend towards participatory forest management (RdS 1994). In 1998, the code was again revised to reflect the devolution of powers to rural councils under the 1996 decentralization laws (RdS 1996, 1998). The 1998 code also recognized the authority of rural council presidents to accept or reject commercial exploitation of forests in their districts. Control over the allocation of permits and licenses, however, remained centralized (Ribot 2009a). The 1998 forest code remains in place to this day.¹⁹

Provisions in the forest code effectively criminalized almost all small-scale forest production in Kaolack, placing strain on local livelihoods. Under the 1998 forest code, a potential producer must request an exploitation permit from the president of the rural council. If granted, the requester must take the approval letter to the local forest service agent (whose office may be more than 30 km away in the *arrondissement* seat). The forest service agent then inspects the trees to make sure that they are not protected species and

¹⁹ Since 2008, the government has been working on revising the forest code once again, partly in response to pressure from donor-funded projects like the one discussed below. The revision is in theory intended to address the roadblocks to implementing the decentralization provisions of the 1998 code. The new code will likely recognize decentralized forest management ‘tools’ such as local conventions developed by projects. However, as of writing, the new code had not been voted on by the National Assembly. It remains deeply uncertain whether the language in the revised code will support decentralization (Ribot 2009b).

that the harvest would not be ecologically harmful. The requester must pay for the inspection (generally paying for fuel plus a small under-the-table payment to the agent), as well as a tax on the quantity of wood or other products to be harvested. For relatively low-value forest products, the tax rate and fees are such that small producers earn very little through legal sales. Furthermore, almost all economically valuable trees are classified as protected species, meaning that only dead trees can be harvested. For other types of tree resources too, the forest code imposes harsh limitations. For example, in order to transport wild fruit to market, it must be picked while hard and unripe. The forest code, however, mandates that only ripe fruit can be picked. Overall, the procedures and taxes specific in forestry regulation make legal production economically unviable. Forestry regulation effectively criminalizes all commercial forest use in Kaolack.

By outlawing small-scale commercial forest use, regulation creates a massive enforcement burden for the forest service. Since many households rely on forest use, infractions occur constantly and ubiquitously across the landscape. Yet the forest service has extremely limited capacity to witness and persecute infractions, with a single field agent assigned to an *arrondissement* (in western Kaolack, an area of about 500 square km). Monitoring this vast area of land, crossed by at best a couple improved roads, is far beyond the capacity of a single agent, who often lacks even fuel for his²⁰ motorcycle. Agents thus have little chance of witnessing infractions, let alone of locating and sanctioning rule-breakers. In response to these constraints, Senegalese forestry policy includes a system that aims to incorporate rural residents into the enforcement of regulations.

The primary tool the forest service attempts to use to achieve forest regulation on its constrained budget is the “*contentieux* system.”²¹ In the context of forest regulation,

²⁰ The vast majority of forest service agents in rural posts have been men, although today the administration occasionally posts female agents to rural areas.

²¹ The French term *contentieux* refers to matters of litigation or dispute in general.

contentieux refer to the legal framework that purports to incentivize forest service agents to persecute infractions and to incentivize rural residents to collaborate with foresters. It works through a simple commission: when a fine is issued, 10% goes to the forest agent who formally reports the infraction (the “verbalizer”) and 20% goes to the person who alerted the agent (the “indicator”). The remaining 70% of the fine goes towards to the budget of the rural council. Through the *contentieux* policy, the Forest Service hopes financial remuneration will overcome the social bonds that commit peasants (and rural councilors) to their relatives and neighbors. The forest service hopes that peasants will become its eyes and ears in rural areas. However, forest administrators and agents are aware that the *contentieux* structure as practiced in rural districts in Senegal bears little resemblance to the one laid out by law. Indeed, the collection and distribution of fine money varies by region and according to the preference of the regional inspector. For instance, when a forest agent apprehends a rule-breaker, he is supposed to document the infraction in a report known as a *procès verbal*, which in theory records the name of the “indicator” and “verbalizer.” However, in all the *procès verbaux* reports I inspected, the agent logged himself as both the indicator and verbalizer. Further, according to the law, the forest agent collects his portion of the fine as well as that of the “indicator.” In many cases, however, fine money is never distributed to agents, but used to repair vehicles and equipment at the regional forestry office or else pocketed by the inspector himself (G. Blundo, personal communication). Regardless of how fines are redistributed, the 20% specified in the forest code is never paid to the “indicator.” Yet this is not to say that there are no rewards for reporting infractions. Forest service agents keep track of favored village informants and reward them with under-the-table payments. These payments, however, are given at the discretion of the agent. These practices and their variations are not unique to Kaolack; largely similar observations have been made in other areas of Senegal (G. Blundo, personal communication; J.C. Ribot, personal communication). In sum, the distribution of fines in practice bears little resemblance to the *contentieux* system as spelled out in law.

Regardless of the particular way forest fines are collected and redistributed, the result is a stable system of monitoring and enforcement that remains unspoken for the actors involved. Candidly, foresters and villagers alike admit that, on the ground, things don't work as the books say they should. It could be argued that this contradiction between law and practice is precisely the intent of the law, because it provides an additional degree of discretion to forest agents and administrators. For any particular infraction, foresters can choose whether to implement the letter-of-the-law, employ the accepted informal practice, or negotiate another outcome (Lund 2008, p.135). Yet one thing that forest law enforcement has *not* achieved in Senegal is the collaboration of the rural population. As we shall see, rural residents widely resist forest regulations.

Everyday Resistance to Forest Regulation

In most parts of Senegal, infractions of the forest code are rampant.²² Villagers continue to lop branches, cut protected tree species, pick unripe fruits, and take products to market without the required permits. They capitalize on the weak capacity of the forest service to monitor in order to avoid the most stringent regulations. Yet rule-breaking is not an inevitable result of low state capacity. It takes work and calculation; villagers employ careful strategies to weaken the state's grip on forests. These strategies exhibit many of the characteristics of Scott's everyday forms of resistance (1985). Furthermore, they are supported by widespread solidarity among rural residents, crossing social and familial divisions.

²² Indeed, resistance to state forest regulation and appropriation in Senegal has rarely been manifested in large-scale, public rebellions or protests. Ribot (2000) describes an exception in which a number of villages individually resisted the presence of charcoalers, without forming an organized inter-village movement.

Rural residents undertake a variety of strategies to avoid forestry regulation, including hiding illegal activities, faking compliance, and negotiating sanctions. The first of these, hiding, is undertaken in accordance with the perceived seriousness of the forest code infraction. For example, a woman stocking firewood may walk along a cattle corridor with a machete in broad daylight and, once she has collected enough wood, ask her son to drive her cartload to town along the main road. In contrast, a man looking to cut down a *dimb* tree would be more cautious, likely working at night and carting the wood over field tracks to avoid being spotted by law enforcement. A second form of resistance involves disingenuous compliance with state procedures, such as when a woodcutter discretely girdles a tree, then seeks permission to cut it once it has died and dried out over a season. Thirdly, rural residents use various strategies to avoid or reduce the sanction they face if they are caught. Some woodcutters seek letters of permission from village chiefs, rural councilors, or religious leaders, which they use to demonstrate they have passed through an authority, even if not the one specified in law. If caught by a forest service agent, almost all rule-breakers appeal for forgiveness or leniency. They appeal to shared norms about the right to subsistence (similar to those described by Scott 1976), or to religious or national identities. They may also petition religious or political authorities through “arrangements” and “interventions”²³ in order to reduce sanctions.²⁴ These strategies ensure that when catching a rulebreaking entails not the impartial application of a law, but a process of negotiation. The forestry agent demands a “fine” which is then bargained by both sides. Eventually, a compromise is reached that is more favorable to both parties than the official

²³ Residents throughout Senegal use these French terms. *Arrangement* refers a negotiation between the authority and the rule-breaker, often involving a payment. *Intervention* refers to an appeal from a third-party, often a chief, religious leader, or political figure made to the authority (or her/his superior) on behalf of the rule-breaker.

²⁴ Of course, the rich are better able to afford a bribe and more likely to have influential contacts who can intervene on their behalf.

system: the rule-breaker pays less than the legal penalty and the forest agent receives more than he would through official channels. Of course, extra-legal taxes on resource users are characteristic outcomes of harsh regulation of small-scale resource use (e.g. Agrawal 2005a, Neumann 1998). Yet the outcomes of these encounters are not pre-determined (Blundo and de Sardan 2006b). The final settlement is a factor the rulebreaker's and the agent's skills at negotiating, and capacities to mobilize outside sources of authority.

Across the diversity of practices employed by peasants to avoid forest regulation, one factor is crucial to their success: solidarity among rural residents. As one forester put it:

It's not just that [the risk of being fined]. The population often says that the rule breakers are people just like them. It's a mentality here. Do you know the expression: '*Ba doola menaatul jàpp moromam*'²⁵? If two people come from the same village, it's often a question of honor.

In other words, residents resist regulation by refusing to report infractions they witness, and by covering up for one another. When a forester arrives in a village to ask about an infraction, residents - from children to the village chief - pledged ignorance. When an incident is of particular concern, such as the cutting of a tree in someone's field, the plaintiff is more likely to seek mediation through a village chief or imam than to report the infraction to a forester.²⁶ Residents' reluctance to report infractions is supported by dense networks of kinship ties within villages, as well as significant inter-villages ties. Solidarity is also based on a shared history of distrust of centralized authorities. It is widely believed

²⁵ A Wolof expression meaning: 'a commoner cannot catch his peer.' This expression implies that it's only a government-appointed administrator that can (or should) enforce the law.

²⁶ Although tradition local authorities are bound by complex ties to outside elites and administrators that can make them more accountable to these actors than to village residents (Ribot 2002, 2009a), in Kaolack it was extremely rare for a chief to report an infraction to a forester.

that if you involve a state authority in a local conflict, you have ruined your relationship with your neighbors (Galvan 2004). Although a small minority of rural residents *are* willing to report forestry infractions to forestry agents, these informers' deep concern with maintaining their anonymity demonstrates the strength of rural solidarity.

In summary, until the 1990s, harsh centralized forest regulations in Kaolack were checked by everyday resistance strategies based on rural solidarity. To identify the powerful effect of solidarity is not to imply that Kaolack was a harmonious place, and that rural groups did not compete or conflict with one another. Instead, it means that rural social divisions were trumped by distrust of the central state. When a law enforcement agent came to the village, residents banded together. While everyday resistance did not win villagers control over their forests, it did allow them to access needed resources and markets, and to cope during times of intense hardship. In response, the forest service could do little but mount annual reforestation campaigns. Yet neither government administrators nor villagers anticipated how this stalemate would break down in the 1990s with the arrival in Kaolack of a new kind of intervention into forest management.

4. PROJECT INTERVENTION AND COMMUNITY PARTICIPATION IN FOREST MANAGEMENT

Community-based forest management arrived in earnest in Kaolack in the mid-1990s. By involving residents in regulating forests, it broke the stalemate between the forest service and rural forest users. Although several donor-funded reforestation projects had existed in various parts of the region during the 1980s, none had sought to involve village actors beyond carrying out labor duties.²⁷ This changed in 1994, when the PAGERNA²⁸ project (the “G” is pronounced like in “mirage”) appeared on the scene, determined to pursue a new approach. One of three natural resource management projects implemented by German development group GTZ,²⁹ PAGERNA was active between 1994 and 2003 in Kaolack and Fatick Regions. Over its lifetime, the project ran a budget of 5.7 million euros (RdS 2004) and pursued a dizzying array of interventions into natural resource management, agricultural production, and credit provision. Its strategy derived from the participatory management wave that was sweeping the development sector, prioritizing landuse zoning (Batterbury 1998) and community committees (Agrawal and Gibson 1999, Manor 2004). What was particular about PAGERNA was the earnest persistence with which project managers sought to establish community partners and to work around the forest

²⁷ PRECOBA and PREVINOBA were two projects that funded community woodlot and reforestation projects in the Peanut Bassin area during the 1980s.

²⁸ PAGERNA stands for *Project Autopromotion et Gestion des Ressources Naturelles dans le Sine-Saloum* (‘Auto-promotion and Natural Resource Management Project in Sine-Saloum’). Sine-Saloum is the former administrative region encompassing Fatick and Kaolack. It was constructed as a broad agro-ecological target zone by the project initiators.

²⁹ GTZ, *Deutsche Gesellschaft für Technische Zusammenarbeit*, was one of the development corporations owned by the German federal government, essential an international aid agency. These corporations has now been subsumed within a single entity, BMZ.

service's objections to local management. Ultimately, the project became best known for pioneering an approach based on village conservation zones and quasi-legal frameworks known as local conventions. It is the enduring effects of these interventions that are the subject of this and the following chapter of the thesis.

As this chapter will detail, PAGERNA initiated a regime of environmental monitoring and enforcement implemented by local residents. Project staff focused on convincing local actors to create a patchwork of community conservation zones patrolled by village guards, and on generating local rules enforced by village chiefs and rural councilors. Yet staff did not envision fundamental changes that the project engendered: certain villagers, through their involvement in monitoring, enforcing, and coordinating management activities, began to think in a new way, linking forest resources with local self-interest. They eventually adopted a more generalized discourse about the importance of environmental protection. As an unexpected byproduct of PAGERNA's interventions, environmentalism became part of the norms and practices accepted by certain rural residents.

Community-based Forest Management and the PAGERNA Project

Over the course of its interventions, PAGERNA introduced community-based institutions into the regulation of forests in Kaolack. It did so through several new approaches. Early on, PAGERNA conducted training and education sessions in order to persuade villagers of the importance of environmental protection. One of the symbols used in these sessions was a large fabric scroll painted with various rural scenes, which villagers named *malaan natal* (cloth of images). Supported on a large easel, the scroll illustrated a narrative of environmental decline and redemption. It depicted elements of a Serer land management system dating from an unspecified past, which it portrayed as environmentally sustainable

and beneficial to rural residents.³⁰ A subsequent set of images identified practices seen as responsible for the degradation of the environment: cutting trees, charcoal production, plowing along stream beds, etc. The scroll then depicted the negative consequences of degradation: falling agricultural yields, soil erosion, and destructive winds. Finally, it displayed a set of technical actions that resolve these problems: assisted regeneration of trees, use of clay stoves, and zoning land for cattle paths, wind breaks, and pasture. Of course, these were precisely the actions PAGERNA proposed that villagers undertake. Today, *malaan natal* is the first thing villagers recall about PAGERNA. By contrasting the vaguely-specified ‘good old days’ with today’s experience of agricultural decline, the scroll tapped into dominant historical memories. As we will see, these images became touchstones for certain residents, who began to shape for themselves identities based on environmental values.

PAGERNA’s initial efforts to convince residents of the need for environmental protection and restoration were followed by opportunities for direct involvement in practices of environmental regulation. In early 1995, the project piloted an approach to reforestation that it considered highly innovative. It labeled this approach *zones mises en defens* (protected zones). Staff drew the concept from villagers’ reports about an existing practice of protecting small areas of forest.³¹ What was novel about the idea was that protection

³⁰ Characterizing Serer land management as sustainable has precedent in the colonial state’s depictions of the Serer as “ideal peasants.” See the discussion of land tenure in ‘Background,’ above, and in Galvan (2004).

³¹ According to project staff, the concept for the MED zone was developed independently by residents of two intervention villages. Villagers told project staff about small areas of land known in Wolof as *mboolu yaatu*. It was prohibited to clear these areas, which were densely covered with grass, shrubs, and trees. Although today they have disappeared in many villages, *mboolu yaatu* served as toilet areas in a region where built latrines were very rare. Partly inspired by the *mboolu*

would be established through community monitoring, and without constructing fencing or undertaking artificial reforestation.³² Painted panels were placed around protected sites, declaring: “We are protecting this forest” (*Àll bu nuy àar*), with images indicating that cutting, setting fires, and farming were forbidden. After pilot protected zones were successful in several villages, PAGERNA disseminated this approach across all its village sites. Villages agreed to implement a total ban on cutting woody material in the protected zones. As one villager reported: “Not one toothpick could be taken.” However, collection of ripe fruit and pasturing animals were allowed. Village guards were appointed to enforce local regulations, stop rule-breakers and, in coordination with village chiefs, levy local fines. Guards reported that during the initial years of protection they caught and fined many villagers, especially women who ventured into protected zones in search of firewood. (These were often the areas where women had collected firewood in the past.) Efforts were made to publically demonstrate that no one was above the new laws. Residents of PAGERNA’s first pilot site recalled how, when the wife of the village chief was caught cutting firewood in the protected zone, the chief stated that no one was above the law and paid the fine of 3,000 cfa (about 6 U.S. dollars) for his wife. Furthermore, not only local residents were caught. Village guards also arrested woodcutters and herders from neighboring villages and regions. When these outside rule-breakers contested the local fine, village authorities warned them they could be turned over to the forest service agent,

yaatu concept, several PAGERNA villages agreed to protect areas of unfarmed land, prohibiting any form of cutting.

³² Villagers chose precise locations for *zones mises en defens*. Almost every one was designated on land not currently or previously used for agriculture. The potential areas for protection thus represented a minor portion of the landscape. Many of these areas were *saawo* livestock corridors. Under local land tenure, it was unthinkable to implant a protected zone on land categorized as fields, even if it was presently unfarmed. To do so would be to appropriate a field belonging to a lineage group. As discussed further in Chapter 5 of this thesis, there was no precedent in local tenure systems for land owned collectively by a village, as were the *zones mises en defens*.

who would impose a much harsher sanction. Throughout this early period, project staff and rural council environmental commission presidents monitored the process.

Six years after the establishment of the first *mises en defens* zones, the scope for participation in practices of regulation increased further. Villagers and rural councilors began to make requests to exploit the ample wood that had regenerated in the protected zones. PAGERNA, working within the framework set by the 1998 forest code, developed management plans (*plans simple de gestion*) for each village. These plans were carbon copies of one another, and simply restated many of the forest code rules governing national domain forests. They specified that forests be cut in blocks over a five-year rotation. To initiate a cut, a village chief had to address a written request to the president of the rural council, who would then decide whether to authorize the cut. The local forest service agent would inspect the site to make sure cutting was “technically feasible” and to demonstrate proper cutting techniques to villagers. The management plans also specified how firewood was to be distributed: villagers who participated would receive half the volume of wood they cut free of charge; they could buy the remainder at prices set by the village committee. The plans dictated that sale revenues be divided, with 25% going to village guards, 10% as tax to the rural council, 5% supporting inter-village management committees, 40% for a forest management fund, and 10% supporting village infrastructure projects. However, in practice, village committees added the management fund into the village project fund, using the money to improve public facilities such as mosques, schools, and wells. They also used these funds to make short-term loans to residents who needed medical treatment.

Parallel to the creation of village-level protected zones, PAGERNA created local regulatory conventions governing resource use, which it labeled ‘local conventions.’ The conventions were developed following the 1996 passage of the national decentralization laws. Project managers saw the law as dictating that rural councils - not village committees - must be in

charge of forest management.³³ The conventions were sets of rules on resource use elaborated through participatory workshops that included representatives of project-identified social groups (farmers, herders, youth, and women). The conventions specified penalties for infractions³⁴ and divided management powers among different local institutions, linking village guards, village committees, multi-village bodies known as CAC (*cadres de concertation*), and the rural council. Drawing on the rural councils' new powers over natural resource management, PAGERNA convinced councilors to deliberate and officialize the conventions as local law. While this officialization triggered push-back from the forest service, as will be discussed in Chapter 5, it also produced effects on landscapes and on residents themselves.

The community-based forest management system helped to produce a biophysical and a political reconfiguration of the Kaolack landscape. Project staff and villagers alike frequently cited robust natural regeneration within *mises en defens* zones as evidence of project success. In 5 years, the *saawo* – in which most woody material had once been cut on an annual basis – sprouted trees reaching 5 to 10 meters. These were primarily the ubiquitous and fast growing species *nger* (*Guiera senegalensis*) and *ratt* (*Combretum* species). Villagers reported that, over a few years, views across open fields became blocked by areas of dense tree cover. In addition to biophysical changes, forest protection reworked land tenure patterns by transforming areas into village commons.³⁵ While previously, tree

³³ In this respect, PAGERNA's approach was very progressive. Other forest management development projects in Senegal were still using management committees – and ignoring rural councils – nearly a decade later (Faye 2006).

³⁴ See the discussion in Chapter 5 of changes to elaboration of fines and to other elements in the local conventions.

³⁵ Although hereditary *laman* authorities had once overseen the distribution of households' land between fields and pasture, there was no precedent for village-held commons. As discussed in note

resources in uncultivated areas were considered open-access resources; following the creation of *mises en defens* zones, trees were restricted to residents of the village in charge of management.³⁶ For the first time, villagers asserted that they ‘owned’ uncultivated land and persecuted residents of other villages who used the trees occurring there. In short, PAGERNA initiated a system of local regulation through which village actors, coordinated by the rural council, were responsible for monitoring, enforcement, and exploitation of protected zones. This system did not replace the national forestry laws describe in Chapter 3. Rather, community management added to the already multi-layered system of forest regulation in Senegal. At the same time, community-based regulation was not inevitable. The fact that PAGERNA became nationally well-known for its approach demonstrates how difficult it has been for other development projects to generate lasting community involvement. Crucial to the success of the PAGERNA model were a group of local residents who represented, advocated for, and enforced environmental protection. I describe these people as environmental activists. But where did these residents come from, and how did they come think this way?

From Peasants to Environmental Subjects

Over the course of PAGERNA, residents in many villages took on the role of environmental activists. Village guards, chiefs, local politicians, farmers, and herders participated in regulation activities, and some began to value environmental protection. These activists came to think of the environment as an important contributor to the collective good and to see its management as a generalized responsibility. This change is surprising because what

24, the existing category of *mboolu yaatu* was non-productive, occupied tiny a proportion of the landscape, and could hardly be said to be collectively owned.

³⁶ Further, only able-bodied residents who could participate in organized cuts were able to freely access firewood resources.

might be labeled ‘environmentalist orientations’³⁷ were distinctly absent from the social landscape prior to community-based management. I argue that their emergence reflects a process of subject formation. It is the actions and commitment of environmental activists that made community-based environmental regulation possible. In this section, I describe how certain people came to think and act in this way.

Almost no one in rural Kaolack was concerned about the environment prior to the arrival of PAGERNA. In interviews, residents who are today active in protection consistently explained that, prior to the project, they had rarely thought about environmental issues. One village chief exclaimed: “Before the project, I was one of the biggest woodcutters in the area!”³⁸ It was PAGERNA, the chief insisted, that made him realize that his activities had environmental impacts. Another villager and forest guard, Babacar Dieng, was bemused when I pressed that he must have known something about the environment prior to getting involved with PAGERNA. Babacar responded: “I was just a farmer. I would cut wood for firewood or when I built a roof.” Thus, not only did residents not participate in

³⁷ To say that many rural residents came to hold environmentalist orientations is not to say that they conceptualized the environment in the same way as residents of urban areas in developed countries, where most researchers have studied environmentalism. Nor does it attribute to these residents a necessary and inherent attachment to nature. Rather, to speak of environmentalist orientations means to identify the locally-specific and socially differentiated ways that they think about the environment, as well as the ways it ‘calls’ to them to take particular kinds of action (Robbins 2007).

³⁸ This statement is likely exaggerated in order to impress the researchers. By downplaying the environmental orientations they held in the past, residents seek to inflate the impact of the project. Yet exaggeration does not mean the change was not real. Residents who use this technique are trying to establish themselves as ‘reformed’ environmental destroyers, revealing that they feel they *are expected to be reformed*. Otherwise, the village chief might have simply denied ever having committed an environmental infraction.

environmental regulation, they were little concerned with environmentalist discourses, even though these were widely circulated by the forest service, development projects, and the Senegalese media. Residents cut trees and knew that cutting was illegal, but they regarded forest code proscriptions as the arbitrary will of centralized power rather than as a coherent ideology. The notion that cutting represented a source of degradation was absent from village discourse.

Why, then, did certain residents to participate in environmental regulation if they had not thought about the environment before? Some chose to participate opportunistically, in pursuit of the authority that involvement with a development project might bring. This limited commitment, however, soon expanded. This shift is clear in the case of Babacar Dieng, the village forest guard mentioned above. An NGO staffer described how villagers perceived Dieng at the beginning of the project:

People call him ‘the madman of the forest.’ He wasn’t involved in any of the authorities that people thought were important. The other elders were all interested in more important posts: village chief, head of the environment,³⁹ head of health, head of market gardening, etc. They said: “Let [Babacar] take the forest guard post. That post is just problems. You have to chase offenders in the forest. They will even

³⁹ Although the NGO staffer mentioned the president of the environmental commission on the rural council as a position of authority, there is reason to believe this position was actually not sought-after prior to PAGERNA’s intervention. Since the environmental commission receives no budget allocation, it is in fact one of the least sought-after positions in most councils. The commission president did, however, acquire much more authority as a result of PAGERNA and subsequent projects. He became an authority whom projects were obliged to consult in their activities. In some cases, project involvement creates new opportunities to gain political status and patronage (e.g. Blundo 1995). It is likely that the NGO staffer is referring to the post-project importance of the environmental commission.

throw spirits at you. You might get chopped by a machete.” They didn’t see at the time that the [forestry] activities would come so far. They didn’t see the project [producing things,] like it produces charcoal today. [Babacar] wanted to become an authority in something.

This quote reveals two things about local conceptions of environmental management prior to PAGERNA. First, environmental management was so foreign to people that a middle-aged man who pursued it was considered to have been crazy, despite the fact that his involvement with a development project might represent a potential source of revenue. To undertake the role of a local law enforcer was seen as even crazier. It involved confronting not just neighbors and relatives, but potentially violent rule-breakers⁴⁰ with whom a normal villager would have had no business. Second, the quote demonstrates that villagers did not anticipate substantial material benefits arising from forest management. However, Babacar saw the environment as a new domain of authority in which he could potentially establish a claim. Thus, Babacar initially participated in regulation in pursuit of limited self-interest. However, as we will see, his interest in protection changed over time, and he came to regard it as a good in-and-of itself. In addition to the pursuit of authority, other motives were also involved in appointing guards. In one village, local authorities nominated a farmer to be a village guard precisely because he was a well-known woodcutter. By assigning responsibility for monitoring protected zones to an environmental rule-breaker, authorities hoped to reform his behavior. They also hoped rule-breakers would serve as effective guards because they “spend all of their time in the bush,”⁴¹ and were more likely

⁴⁰ The village in question borders an area that served as a center of clandestine charcoal production since the forest service banned exploitation in Kaolack region. The professional charcoalers whom a guard would have had to confront have long been persecuted by foresters, and might be threatened by the presence of a village guard.

⁴¹ In Kaolack, to say that a man “spends all his time in the bush” is to mock him and suggest that his behavior is bizarre. (See also the earlier quote about “the madman of the forest.”) The meaning of

to know of and witness infractions. Furthermore, woodcutters needed the position more than other better-off villagers; it provided an opportunity to redeem oneself in the eyes of rural councilors and project staff.

Although villagers were initially drawn to participate for diverse reasons, their commitment to practices and values of environmental protection expanded over time. Concern first emerged towards specific forest sites which villagers were heavily involved in managing. Later, however, these particular commitments changed into more general environmentalist orientations. After the establishment of *mises en defens* zones, village guards found themselves responsible for the management of a small patch of land, where they spent substantial amounts of time, sometimes bringing pots of green tea to spend an afternoon watching for rule-breakers. Guards closely observed the condition of the trees regenerating in their protected zones, and reported on them to rural councilors and project staff. In some sense, then, protected zones became objects of affection towards which participants directed substantial attention, effort, and thought. Over time, the pool of participants who interacted with these zones expanded. After a year or two of enforcement, almost all residents were aware of rules, and many began to observe for themselves the effects protection was having on the landscape. With the advent of annual firewood exploitation, villagers began to cut wood under the supervision of village guards and forest service agents, who instructed them on which species they could cut and what techniques to use. In this sense, villagers had to be aware of and regulate not only where they used

this phrase is based on wealth status. A wealthy farmer does not need to go “into the bush” during the dry season, since his adequate harvest provides food stocks and cash to meet household needs until the beginning of the next agricultural season. In contrast, a poor farmer cannot meet household needs through farming alone, and so must go to the bush to collect construction materials (e.g. thatch for hut roofs) and to cut wood to supplement his income. This phrase would not apply to women, since even in relatively wealthy households, women are expected to go to the bush daily to collect firewood for cooking.

forest resources, but how they did so. What is important to note is that new interactions and concerns with forest emerged not as rational individuals chose what they would believe, but as people interacted with forests and with one another in diverse ways. Villagers were subject to multiple pressures: threats of fines, monitoring by guards, village planning meetings, discussions with relatives, and complaints about outsiders stealing from the forest. Thus, environmental subjectivities arose first in relation to specific objects of affection: small, closely-watched *mises en defens* zones. Later, some people's concern for a particular forest expanded into a concern for 'the environment' as a whole.

As they became more involved in forest regulation, some peasants began to identify and act as environmental activists. In so doing, they mobilized in their communities discourses of environmental protection espoused by PAGERNA. They did more than publicly voice environmentalist orientations in pursuit of short-term material or political gains. They began to think about 'the environment' as a contributing factor to individual and collective well-being. Abdoulaye Sène, a resident of one of one of the earliest PAGERNA villages, made this logic clear in explaining why it was important to protect trees:

“Trees bring value: *kad, siddeem, neb-neb* [tree species]. They are good for animals to eat. They can cure diseases. It's the *environnement*⁴² that

⁴² Sène uses the French word *environnement* to refer to the regulatory regime established under PAGERNA. Residents consistently used the French words *environnement* and *forêt* to refer not to natural resources in general, but to the modern practice of protecting them. Residents used the Wolof word *àll* (translated in English as 'bush') to refer to the non-residential rural landscape in general (including fields and uncultivated areas) or to resources in the collective sense, such as trees and soil. The use of '*environnement*' to environmental regulation indicates the origins of this idea in development projects. Although PAGERNA went to some length to use Wolof to explain and justify the system of protection it was creating, people ultimately adopted the French term to describe it. This choice suggests the conceptual disconnect between the current community-based management system and pre-existing forms of natural resource management.

guarantees these trees... Many trees got to the point where they were almost gone. The *environnement* is why some trees are still here. If not for that they would all be cut. You couldn't do anything about [the cutting]."

Sène believes that the environmental regulation regime is crucial to maintaining the contributions made by trees (he means both trees in fields and those in *mises en defens* zones) to local livelihoods. Of course, everyone in the area knows that certain tree species are useful, but Sène focuses on the connection between environmental regulation and human well-being. This focus implied a new logic for environmental protection: one that applied not only in *mises en defens* zones and for the purpose of generating immediate returns, but to the whole landscape and with a view to long-term well-being.

Over the course of its nine-year lifespan, PAGERNA catalyzed profound changes in the relationship between Kaolack residents and forest resources. By the end of field activities in 2002, residents of intervention districts were deeply involved in forest regulation. Restrictions had reached a degree never seen in Senegal's history; they had successfully excluded not just commercial exploitation, but also subsistence use⁴³ in a patchwork of local protected zones. This level of regulation was possible because a new group of environmental activists was monitoring resource use, enforcing restrictions, and espousing the values of protection. Some residents had come to value environmental resources in ways they had not in the past, and to see the protection of these resources as important for human well-being. However, to end the story here, at the end of the project, would be to miss a crucial piece of its legacy. Clearly, the activities of development projects like PAGERNA play a role in local environmental governance; yet they represent only short-lived catalysts embedded in an ongoing history. Thus, we must ask: What happened after project staff packed up and went home? What did the local residents and government officials do with the institutions and practices the project left behind? In what ways did

⁴³ There are exceptions; authorities *had* attempted to enforce total restriction in national parks and private plantations.

environment governance continue to change? We shall see in Chapter 5 that although PAGERNA set the stage, other actors modified the forest governance script substantially after the project's close.

5. AFTER THE PROJECT: INTIMATE GOVERNMENT

At the time I arrived in Kaolack to conduct field research in May 2010, PAGERNA had been absent for about eight years. Yet the legacy of the project was clearly visible. The vast majority of the protected zones it had established still received a measure of protection. In fact, the rural council in at least one district had delimited a number of new protected zones *after* the project's close. Yet the management regime present in 2010 was also substantially different from the one envisioned by PAGERNA ten years earlier. As we will see, the regime in 2010 resembled neither the patchwork of autonomous self-governing communities envisioned in the project's early phase, nor the empowered local government framework pursued in its latter efforts. Instead, village authorities, rural councilors, and forest service agents began to work together much more closely than before. Over time, they developed shared interests and collaborative relationships. This new relationship between local authorities and state bureaucrats was possible because of the presence of the environmental activists described above. I use Agrawal's term 'intimate government' to refer to the system of governance built from these relationships between state and community authorities (2005b). In Kaolack, intimate government was more strict, consistent, and internalized than centralized regulation had been. However, it also had consequences that neither PAGERNA nor the forest service had foreseen: it destabilized the long-standing stalemate between regulation and resistance. Concern for environmental protection undermined the rural solidarity on which resistance had depended, dividing villages from one another. In villages that actively participated in forest protection, most residents acquiesced to self-monitoring and obeyed restrictions. In non-participating villages, residents continued to break the rules. However, the erosion of inter-village solidarity meant that rule-breakers were increasingly vilified and punished. This chapter explores how intimate government came about and how it touched different social groups.

From Usurpers to Collaborators: Village Guards and Foresters

PAGERNA initially attempted to establish a regulatory system parallel to the forest service in which monitoring, enforcement, and sanctioning would be controlled at the local level.⁴⁴ Unsurprisingly, the forest service perceived a parallel system as a threat to its control of forests. It appeared as though village guards, working on the basis of locally-elaborated codes, would be able to persecute rule-breakers at their own discretion. Sanctions would be settled – and fines collected – at the village level, mediated by village chiefs and rural councilors. This local system threatened the forest service on several levels: first, it jeopardized central collection of fines, a not insubstantial source of forest service revenue. More significantly, the independence of a community-based system would challenge the central state's control over law enforcement on its national territory. In response to these threats, the forestry administration quickly moved to block the resource management approach propagated by PAGERNA, and to challenge the legitimacy of the village guards who were at the approach's core.⁴⁵

PAGERNA's problems with the forest service began early. During its first year, project managers found themselves frequently at odds with the national coordinator, a forester charged with representing the Senegalese government. While project managers in Kaolack city struggled to find a national coordinator willing to cooperate with their approach, forest service agents in rural districts also began resisting the project. They refused to participate in PAGERNA meetings and training sessions, complaining that they were being replaced by

⁴⁴ My aim in this discussion is not to argue for the desirability of either local-level or centralized sanctioning powers. Rather, I seek to elucidate the logic underlying the positions of administrators, project managers, and village authorities.

⁴⁵ Senegalese law supports the forest service's position. Only sworn state agents (*agents assermentés*) have legal authority to make arrests.

village guards.⁴⁶ Although PAGERNA was able to work around local resistance to conduct village activities, it ran into further problems as it attempted to have rural councils pass local environmental conventions. Forest service administrators blocked conventions in at least one district. Although the rural council had deliberated and signed the convention, the head forester at the department level refused to provide technical approval for the plan. Again, PAGERNA worked around resistance, helping the rural council to appeal directly to the regional forest service office for approval. However, although PAGERNA managed to work around one-time blockages to particular activities, forest service resistance mounted. Gradually, the project began to back away from its initial approach. In response to objections to its local conventions, PAGERNA relabeled and repurposed these documents, removing references to local fines and village guard powers, and instead simply citing penalties prescribed by the forest code.⁴⁷ While I do not have evidence of pressure from national-level administration, given how sharply PAGERNA revised its approach after the first few years, high-level pressure is not unimaginable. The project accepted a diminished role for villagers and rural councilors – they were relegated to essentially the same position they had occupied prior to the project within the *contentieux* system. Yet the village regulation that PAGERNA had set into motion was not so easy to reign in. In many villages, guards continued to persecute infractions and levy local fines. Instead of erasing local

⁴⁶ Agents were also upset about losing an important source of income: the *per diems* paid by development projects to secure their cooperation. PAGERNA managers categorically refused to pay this fee, arguing that this was the Senegalese government's responsibility. In the end, the national coordinator convinced the government to pay the *per diems*.

⁴⁷ PAGERNA renamed its local conventions twice in response to legal challenges from the forestry administration. Initially named 'interior regulations' (*règlements intérieurs*), the project renamed them 'codes of conduct' (*codes de conduite*), and finally 'local conventions' (*conventions locales*). The contents of rural communities' documents differ slightly.

involvement in regulation, forest service contestation diverted and channeled it. What emerged were practices that enmeshed community and state regulators.

In response to legal challenges to community-based management, village guards and rural councilors sought both to justify their legitimacy as regulators, and to form collaborative relationships with foresters. To achieve this, they appealed to a logic of environmental protection. Alassane Sarr, president of the environmental commission in one of PAGERNA's first interventions districts, coordinated the network of village guards and oversaw enforcement and exploitation of protected zones. Sarr played a central role in establishing and defending local enforcement in his district. In the following quote, Sarr describes how he responded to the departmental forestry official's refusal to sign the local convention:

The forest service thinks that the population is taking over the work of the state. But it's not that. I want them to help out until all of us are forest service agents ourselves. No one can say we [need] a card⁴⁸ to catch someone... The Inspector [at the department office] refused to sign the local convention. But the 2000 [fine]⁴⁹ is to keep among us – that's why we do it. The forest service does the real fines. I took the convention to Fatick,⁵⁰ where the [regional inspector] signed it. The *sous-préfet* signed it. We passed through it. It was painful... The inspector said there was no question of us taking our own fines. But I knew that the fines were only to

⁴⁸ i.e. an identity card. In its initial phase, PAGERNA distributed identity cards to some village guards. This was another of the forest service's central objections, and PAGERNA later ceased distributing ID cards.

⁴⁹ The 2000 fcfa (4 U.S. dollar) is a local fine, since the forest code does not include fines this small.

⁵⁰ The district, although closer to Kaolack city, falls in the administrative jurisdiction of Fatick Region.

create fear inside the community. People who can't afford to pay the 2000 won't cut. It's not the forest service that owns the forest. We own it.

Sarr narrates how he went over the head of the departmental inspector to get the local convention signed by the regional inspector. The regional inspector, however, warns that local fines cannot be legally applied. Yet, Sarr does not admit that the rural council has been forced to drop them. He continues to argue for their application as a way to suppress rule-breaking. Sarr's key justification for local regulation is its effectiveness at reducing infractions. In another interview, Sarr explains: "The Forest Service has been around since Independence... They were here during the period when the whole environment in Senegal was destroyed." For Sarr, the forest service was incapable of protecting forests through centralized regulation, leaving rural councils and village guards the responsibility to assure protection. Yet local authorities cannot undertake this task alone; they need the forest service to issue permits, levy large fines, and help spread regulatory compliance and environmentalist values throughout the local population. Sarr outlines a new partnership: in order to achieve the goal of more effectively protecting the environment, villagers, rural councilors, and forest service agents must work together, but with differentiated responsibilities.

Now pursuing the common goal of forest protection, local authorities and foresters began to collaborate and negotiated new practices for dealing with infractions. Local guards continue to monitor protected zones and confront rule-breakers. But whereas before they often went through village mediation, post-PAGERNA they were more likely to involve the local forest agent. No longer did infractions resemble the early days of community management, when chiefs' wives were caught gathering firewood or unripe fruits. More and more, rule-breakers came from neighboring villages and urban areas (this trend will be discussed in the next section). When guards apprehended rule-breaker considered to be

outsiders, or witnessed a “serious infraction”⁵¹ they were less likely to try to resolve the matter through village authorities and more likely to call the forest service agent. These trends are reflected in reports of recent infractions. Of the 18 rule-breaking incidents spontaneously reported during interviews, 10 were channeled to the local forest agent (**Table 2**). Only 6 were dealt with at the village or rural council level.⁵² Regulation is thus trending towards the simultaneous involvement of village guards and forest service agents. Although local guarding has no basis in law, it continues in practice, and increasingly draws on the forest service agent for support. Yet this trend represents not simply the forest service recolonizing a domain of authority lost due to community-based management. Foresters, too, were drawn into relationships with local authorities.

In early 2009, a new forestry agent was assigned to the study district. The agent was Sekou Coly, a young man from Casamance⁵³ taking up his first field post. In an interview, Coly described how different the situation at his post was from what he had been taught at forestry school: while his training had touched on *mises en defens* zones, he had not been taught about village- and council-level organization. “I found things well organized here. My tasks are reduced. They know that the forest is theirs. They guard it for themselves... I

⁵¹ Infractions that are considered serious by both local authorities and the forest service include cutting down entire trees (any species besides fast-growing *ngeer* and *ratt*); harvesting *ngeer* and *ratt* in large quantities (outside of council-regulated exploitation); and lopping more than one or two branches, especially on *kadd* trees, whose pods can be collected and sold as animal fodder.

⁵² In one of the remaining two rule-breaking instances, the rule-breaker escaped after being spotted; in the other, the respondent did not know whether the forest agent became involved after the incident was reported to the rural council.

⁵³ Casamance is the narrow sliver of Senegalese territory located between The Gambia and Guinea-Bissau. The presence of Casamançais foresters in Sine-Saloum reflects the forest service policy of posting agents outside their home region, in order to discourage them from forming kinship-based relations with local residents.

read the documents and saw how PAGERNA worked.” What Coly described is a process of socialization through which he learned how to enforce forest regulation in collaboration with local managers. One result of this socialization was that Coly’s perspective on community management was considerably more favorable than that of many forestry administrators. When asked about the legitimacy of local fines, Coly responded that, although this system should be “updated,” it was the most appropriate to “local realities.” In fact, he argued, what was needed were *more* village guards and *more* oversight by the rural council:

Now people say it’s the [forest service] agent’s job to guard. But I can’t do this – it’s not a single site to protect. I only have my moto – I can’t confiscate wood if people abandon it and run.

The rural council should redynamize the CAC’s [inter-village coordination bodies]. The council hasn’t made an effort. If I issue a fine, 70% goes to the council. The council needs to do natural resource management.

Coly admitted that all the infractions he heard about were reported to him by villagers. Without their help, he would be ineffective at enforcing forestry regulation. Coly also maintained a close relationship with several rural councilors, frequently talking to them on the phone and attending meetings at the rural council office. In turn, the rural council allocated 5% of revenues from protected zones to a small monthly fuel budget for Coly. This example shows how forest service agents formed relationships not just with village guards but with rural councils. All three parties began to collaborate with and depend on one another to carry out environmental regulation.

Closer relationships among foresters, village guards, and rural councilors did not necessarily mean that these relationships followed official procedures. That procedures and practices were incongruent is consistent with the prior situation under centralized forest management. Yet what is different today is that foresters deviate from procedure in ways that provide support and legitimacy to local regulatory authorities. In the case of

agent Coly, he claimed to prefer unofficial village negotiations – in which he often participated – over formal sanction. The small number of *procès verbal* he issued (5 in 2009) attests to how infrequently Coly undertakes formal sanctions (**Table 3**).

Furthermore, deviation from procedures also occurred in other regulatory practices. For example, when approving harvests in *mises en defens* zones, Coly often asked the president of the environmental commission to appear in his place. The large number of village requests to cut firewood in protected zones mean that Coly could not inspect all sites. In villages that have already performed several cuts, Coly decided that no inspection is necessary. The forest code and local conventions, however, specify that forest service agents must inspect management sites prior to *every* harvest. Although the deviation is minor, it undermines one of the tacit purposes of management plans: to restrain the exercise of rural councils' powers to manage forests. What is interesting here is that Coly participated in and validated precisely the local management system that many of his superiors opposed. While the incidents described reflect the experiences of one agent, there is evidence to suggest that they are not based on the "goodwill" of one individual alone. In other districts too, close relationships developed between local environmental activists and forest service agents. Furthermore, forestry administrators themselves admitted candidly that while community regulators rarely follow procedures, they are more effective regulators than forest service agents alone. Thus, the gap between forestry law and practice, although not unique to today's regime of intimate government, produced a new effect: it lent legitimacy to local authorities.

The above discussion shows that forest regulation in Koalack came to be based on intimate government: close interaction, shared interests, and mutual reliance among village authorities, rural councilors, and forest service agents. Initially, the forest service administration challenged the legal basis of community-based management, but local actors responded by developing new forms of practice and collaboration that differed substantially from formal procedures. Although the forest service undermined the legal basis for local regulation, it was not able to erode its legitimacy in practice. Most critical to the intimate government regime were the actions of village-based environmental activists,

who appealed to forest agents based on new environmentalist orientations, and were in turn relied upon by foresters to enforce regulations. As we will see, however, a stable regime of intimate government did not require that the majority of rural residents adopt strong support for environmental protection.

Trading Solidarity for Environmentalism

Thus far, we have seen that some residents became active in community-based management, developed new environmentalist values, and began to collaborate with forest service agents. However, the image of a community wholly converted over to environmentalism is a false one. Many residents remain unconvinced by the ideology of environmental protection. Rather than erasing differences, environmental regulation lay down new dividing lines over an already differentiated society. Yet despite these divisions, the regime of intimate government became stricter and more effective than centralized regulation had been. This final section of the thesis explores how intimate government was so successful despite the incomplete incorporation of residents, as well as how the regime affected different groups of residents. As we will see, intimate government was successful because it engendered not only commitment, but also acquiescence. Furthermore, villages' differing involvement in practices of regulation produced an uneven spatial pattern of subjectivities. In villages where participation in regulatory practices was most intense, acquiescers monitored and restricted their own activities, reducing the need for enforcement. In zones where there had been fewer protection activities, residents continued to break forest restrictions. However, the inter-village solidarity that had once allowed these rule-breakers to resist forestry regulations was eroding. Rule-breakers found themselves persecuted by guards from neighboring villages and foresters alike. In this sense, rural society traded solidarity for environmentalism. While the loss of solidarity made intimate government effective at regulating forests, it also imposed costs on the poor. This section explores the structure and effects of intimate government.

We first ask how a majority of residents came to acquiesce to intimate government. Acquiescers were different from activists; they did not actively enforce regulation, confront rule-breakers, or collaborate directly with the forest service.⁵⁴ They were not committed to values of environmental protection. Instead, acquiescers restrained their forest use because they internalized the monitoring and regulation to which they were subjected. To understand this process, we briefly consider one of the most ubiquitous forest uses in Kaolack: women collecting firewood for household use. Firewood collection was also one of the activities most restricted by forest protection,⁵⁵ yet women generally complied with restrictions. Tabara Mbakhoume, a resident of a village with several protected areas, explained why: “Because they will catch you and make you pay - that’s why many people don’t dare to cut trees.” In other words, women responded to the risk of sanction. But there is more to acquiescence than this; sanctioning cannot account for the full extent of women’s compliance. While the risk of being caught was high in the initial days of protection, monitoring pressure later dropped off. Yet for the most part, there was not a corresponding

⁵⁴ Categorizing residents as managers, acquiescers, and rejectors is an organizational trick useful for revealing how intimate government was linked to the emergence of differing subjectivities. The purpose of this trick is not to exclude other meaningful social divisions, nor to hide differentiation within groups. Indeed, within each group, levels of involvement, acquiescence, and resistance varied.

⁵⁵ In interviews, one of women’s main complaints was that they must travel farther to find firewood compared to the past. Many women reported spending two to three hours collecting every two days. Even if wood is available on the landscape, it is of little use if it is more than two kilometers from the village. The village protected zones have contributed to this scarcity. However, in villages that are able to exploit them, these zones provide a stock of high-quality firewood that can last households the three-month rainy season, when both wood and women’s time are at their scarcest.

increase in illegal firewood gathering in protected zones.⁵⁶ The high degree of compliance was the result of women – individually and collectively – monitoring and regulating themselves (Foucault 1977). As women became attentive to whether their activities would be considered ‘environmentally destructive,’ they began to avoid illegal practices regardless of whether they were being monitored. Self-regulation was also self-reinforcing. Once the majority of residents began to comply, collecting firewood in a protected area became a deviant act that appeared to jeopardize the hard-won fruits of community protection. Thus women began to monitor more closely both themselves and one another. Acquiescers internalized forest restrictions to the point that village guards no longer needed to watch them strictly. Self-monitoring in turn both strengthened intimate government and distributed its effects unevenly across space.

The combination of environmental activism and acquiescence produced an uneven pattern of compliance and persecution within a stronger and stricter regulatory regime. The infractions reported by residents of participating villages reflect a trend towards persecuting outsiders: 16 of the 18 reported infractions were committed by people from outside the village in which they were caught (**Table 2**).⁵⁷ The shift towards persecuting outsiders can be understood with respect to bonds of solidarity among different residents. Within participating villages, close kinship ties between environmental activists and other residents may have reinforced acquiescence. Since the number of infractions committed by residents declined to nearly zero, authorities rarely faced situations where they were asked to impose harsh sanctions on close relatives. Thus they no longer have to choose between commitments to kin and commitments to environmentalist values. Instead, these two sets

⁵⁶ Indeed, in certain villages where monitoring was never intense, women continue to cut in protected zones. In the majority of protected zones, however, there is a high degree of compliance among women.

⁵⁷ In the one reported case in which a woman from the participating village was caught, the guard decided to let her off with a warning.

of norms became interwoven. In contrast, *between-village* ties of solidarity were snapped by commitments to environmental protection. Residents of participating villages have abandoned their support for rule-breakers from outside the village. As indicated by reports of infractions, participants often helped to persecute outsiders' illegal activities.

Furthermore, they justified these practices with reference to environmentalist and exclusionary logics. When asked how it was possible to persecute rule-breakers who were poor farmers, residents of participating villages insisted that rule-breaking could not be tolerated: 'If we let one person steal today, tomorrow someone else will come, until the forest is ruined,' was a common refrain.⁵⁸ In addition, at the same time as inter-village solidarity eroded, forest regulation became stricter and more consistent than before, and the resistance strategies described in chapter 3 became decidedly less effective. Not only were illegal practices more likely to be reported, sanctions were also more likely to be applied consistently. Village guards, rural councilors, and forest service agents all reported that they could no longer afford to forgive rule-breakers or to make "arrangements." Supporting these claims, residents reported that forest service agents were more "correct" (i.e. less likely to accept bribes) and stricter than in the past. Of course, as detailed above, this does not mean a forest agents apply the letter of the law. Instead, their collaboration with village authorities and councilors – who were now more committed to the goal of forest regulation – meant that villagers expected agents to levy a fine in order to enforce the restrictions that he represented. Thus, intimate government affected villages unevenly: while some complied, others were subject to stricter and more consistent persecution than before. We now briefly consider one such persecuted village.

The farming hamlet of Niakadola was hit especially hard by a regime of harsher sanctions under intimate government. All of the village's 150 or so residents are ethnically Wolof, and they have few kinship ties to more powerful villages in the rural community. The village

⁵⁸ Almost all respondents (including rule-breakers themselves) used the word 'steal' (*sacc*) to refer to illegal resource use.

has no representative on the rural council,⁵⁹ and even casual inspection reveals it to be one of the poorest in the district. Residents are especially reliant on tree cutting and clandestine charcoal making, with one member in almost every household cutting trees on a regular basis, even during periods of relative 'normalcy.' Niakadola was never implicated in PAGERNA's activities, and never received training, established a protected zone, or appointed village guards. At the time of research, the village was a local pariah: residents were persecuted by the forest service and condemned by rural councilors. Mansour Diagne, a middle-aged resident of Niakadola, described the inequity of local environmental regulation:

PAGERNA. They enforced the domain law⁶⁰ here. They want to protect the bush and not let anyone enter. It's mean. Because they [residents of other villages] have salaries, and I only have the bush to live on. They [PAGERNA] gave some families rice or seeds. They gave me nothing, and they tell me to leave the bush alone.

Niakadola residents widely resented forest regulation, and especially the actions of neighboring villages. Almost every year for the past few years, the forest service agent and president of the environmental commission came to the village to confiscate charcoal and fined resident charcoal-makers as much as 90,000 fcfa (180 dollars). Villagers also reported that was more difficult to negotiate fines with agents. In response, Niakadola

⁵⁹ Niakadola is closely allied to PDS, which has never won an election in the district. At the time of writing, this and most other rural councils in near Kaolack are majority held by *Bennoo*, a coalition of parties including the formerly nationally dominant socialist party (PS). The Sine-Saloum agricultural heartland has been a stronghold for PS since Independence.

⁶⁰ In connecting PAGERNA and the national domain law, Diagne underlines the legal basis of the protected *mises en defens* zones. Peasants in Sine-Saloum widely consider the law illegitimate and divisive (see Galvan 2004).

residents continued to practice solidarity among themselves. They covered for neighbors accused of tree cutting, and attempted to intervene on one another's behalf when someone was being sanctioned. But the solidarity that once tied Niakadola to other villages had largely dissolved. The everyday strategies of resistance they had formerly used to escape centralized regulations were less effective now that neighboring villages were protecting areas of forest and were willing to collaborate with foresters. Thus, under intimate government, residents of villages like Niakadola find themselves monitored by neighbors, fined by foresters, and undermined by environmental commitments. Reduced access represents a further marginalization of a group already deeply excluded. An elder in Niakodola underlined their position: "Someone who has *nothing* – if you ban him from the bush, you've killed him... If you have nothing and they protect the bush, you're dead."

To suggest that Kaolack residents traded solidarity for environmentalism is not to say that everyone became an environmental activist and an enforcer of environmental restrictions. Instead, it means that the relationships among environmental activists, rural councilors, forest service agents, and acquiescers made environmentalism a widely unchallenged discourse, and one that compels residents more than inter-village rural solidarities. Although some residents did not participate directly in monitoring and fining their neighbors, these acquiescers' self-monitoring and refusal to cover for other residents strengthened the regime of intimate government; paradoxically, acquiescence *is* a form of participation in intimate government. One result of intimate government and stronger regulation was a crackdown on those residents least able to sustain it.

Afterward: Intimate Government Gone Viral

Today, intimate government has gone viral in Senegal. The model of community-based management developed by PAGERNA is being propagated by development projects with the support of forest service administrators, and the local convention approach stands to be recognized in the upcoming revision of the forest code (Ribot 2009b). The forest service

administration thus moved from staunch opposition to the local conventions in the 1990s, to rhetorical support today. And it is not just centralized authorities, but also local ones, that support community-based management. In study districts, villages that were never involved with PAGERNA have petitioned rural councils to designate protected areas in their own areas. Similarly, in neighboring districts, rural councilors are seeking NGO support to bring the 'PAGERNA approach to our area.' What is revealed by this widespread interest in the approach that produced intimate government of forests in Kaolack? First, it shows that forest service administrators recognize that changes they once believed threatened their agency's prerogatives have helped them to achieve certain objectives: stricter, more effective enforcement at low cost. Indeed, PAGERNA itself attempted to demonstrate its success on these terms by presenting data on the amount of land reforested through natural regeneration in village protected zones. On the other hand, interest on the part of rural councils and village leaders can be read as pursuit of development project activities and the short-term benefits they provide. However, this does not mean we should dismiss this interest. As we saw, those who participate in new practices of regulation often do so in pursuit of short-term interests. Recognizing short-term interests in environmental protection can be the first step in the emergence of new subjectivities. Intimate government going viral suggests the continued relevance of environmentality to understanding shifting governance of forests in Senegal and elsewhere.

6. CONCLUSION

The emergence of intimate government in Kaolack illustrates the usefulness of an environmentality framework – and a focus on subject formation in particular – to understanding changes in the governance of natural resources and the incorporation of communities into management. This concluding chapter briefly explores the wider contributions of the environmentality approach. It focuses on how environmentality can be deployed as a middle ground analysis for understanding multiple institutional, normative, and ideational changes. Examining subjectivities need not imply compressing the field of study to singular outcomes or totalizing governmental projects. Instead, attention to subjectivities can reveal multiple outcomes that are differentiated across social groups and highlight the mutual constitution of ideological and institutional domains.

Relatively few studies of natural resource governance explicitly attend to subject formation, or have considered the links between short-term policies and projects and rural people's desires, identities, and orientations towards resource management (see Agrawal 2005a, 2005b; Birkenholtz 2009; Mawdsley 2009). At a general level, it is often assumed that when people engage with the practices and ideologies of environmental management, they do so opportunistically and based on prior and fixed interests. As a corollary, the impacts of policies are assumed to be temporary or, where they are lasting, to serve separate and ulterior purposes, such as when elites appropriate environmental discourses and institutions to consolidate their control of resources. Clearly, I argue that such was not the case following PAGERNA's intervention in Kaolack. How then, does attention to subjectivities strengthen analyses of the longer-term implications of resource management policies, such as trends towards community-based management? First, subjectivities play a central role in sustaining and shaping regimes of practice that persist after interventions. In Kaolack, it was the actions of activists – influenced by new understandings of self-interest – that brought about and sustained an intimate regime of forest regulation. Subjectivities are crucial to understanding the persistence of this regime, since none of the actors involved anticipated or directed intimate government; it was the outcome of negotiations among

authorities acting on the basis of reconfigured interests. Secondly, attention to subjectivities sheds light on institutional change. In addition to work on environmentality, the emerging literature on institutional syncretism has pointed out that subjectivities and institutional forms are mutually constituted and subject to continuous comparison, mixing, and alteration (Galvan 2004, Galvan and Sil 2007a). The legitimacy of institutions is formed in part through the values, historical memories, and commitments of different constituencies. Institutional legitimacy may be especially important where authority is contested and split among multiple institutions (Ribot et al 2008). Subjectivities enter into institution-constituent interactions that can lead towards - or away from - the construction of downward accountability (Chhatre 2008). Finally, subject formation may produce new kinds of actors and actions in local politics. In Kaolack, environmental activists have acquired standing as local authorities, through their commitment to environmentalist values, and their subsequent role in regulating resource use. This position has contributed to reconfiguring relations among village authorities, rural councils, and state administrative institutions like the forest service. Related results have emerged from the body of research on development brokers, in which development projects produce new actors who go on to shape local politics (Blundo 1995, Biershenk et al 2000, Lewis and Mosse 2006). I do not propose that we can predict or generalize the actions of the subjects who emerge from development interventions and environmental policies. However, understanding the full implications of interventions requires accounting for these people and their actions well beyond the project life cycle.

The purpose of drawing attention to subject formation is not to imply that devolution and participation in regulatory practices lead to a unitary outcome or affect all people in the same way. Quite the opposite, in the case of Kaolack intimate government was a heterogeneous and incomplete project that touched the lives of residents in very different ways. The subjects who regulated themselves (and others), and who have been the focus of past work on environmentality, form a critical piece of this project, but not the only one. This thesis attends to multiple subjectivities and multiple mechanisms of rule and provides an admittedly schematic view of these patterns by categorizing residents as activists,

acquiescers, and resisters to forest regulation. The purpose of this schematic is not to introduce a static dimension of identity on top of existing ones, but to draw attention to the connection between practices, subjectivities, and a governance regime. The people I describe as environmental activists most clearly embodied Agrawal's use of environmental subjectivities. As Agrawal describes in detail, these residents were implicated in a particular mechanism of rule: they were ruled through what we might describe as government through desires. The thesis contributes to the environmentality framework by identifying a second category of person who was equally part of intimate government: people I labeled acquiescers. Although their desires were never made to serve the project of governing forests and forest users, acquiescers were nonetheless incorporated into intimate government. Community monitoring brought to bear pressures to comply, channeled through residents' pre-existing connections with village authorities and neighbors. I concur with Agrawal that Foucault's metaphor of the panopticon is unsatisfying in this context (Agrawal 2005a p. 93, Foucault 1977). Nonetheless, community pressures embody a second mechanism of rule, which might be called government through monitoring. Finally, there is a third category of person, to which Agrawal pays less attention: those who refused to be ruled.⁶¹ Through everyday practices and peasant ideology, these residents continued to resist forest regulation and assert their right to access resources and markets. Under intimate government, more dispersed, strict, and consistent regulation restricted their actions, but did not eliminate the possibility of resistance. Rule of these residents remained based on coercive and punitive measures. Thus, while intimate government may be "more modulated but less visible, more autonomous but more continuous, more precise and... more humane" (Agrawal 2005a, p. 93) when compared with centralized rule, but it remains an incomplete project.

⁶¹ This is intended as a passing allusion to James C. Scott's *The Art of Not Being Governed*, without plunging into its analytical points.

When it is seen as incomplete and heterogeneous, environmentality allows a flexible analysis of the outcomes of governance changes, such as the incorporation of communities into natural resource management. In advocating for such an approach, my purpose has not been to insist that the subjectivities and mechanisms of rule that emerged in Kaolack will be mirrored elsewhere. Nor do I mean that divisions between resistance and rule or between state and community authority will occur along the same axes. Instead, I propose that to understand longer-term implications of projects and policies, we must attend to the multiple ways they shape people's actions, commitments, and identities, as well as to the fact that they shape people incompletely. These outcomes will be difficult to predict and do not result straightforwardly from the self-conscious motivations of the actors involved. The degrees to which particular changes – such as lasting community involvement in regulating forests – enhance or diminish values such as democratic representativeness, social equity, and resource sustainability will be variable and uncertain. Whether or not environmentality and subject formation allow us to use “Foucault as a policy tool,”⁶² they complicate the problem substantially. The strength of this approach lies in revealing how practices, consciousness, and forms of rule are mutually constituted over the long term.

⁶² I thank Jesse C. Ribot for suggesting this phrase.

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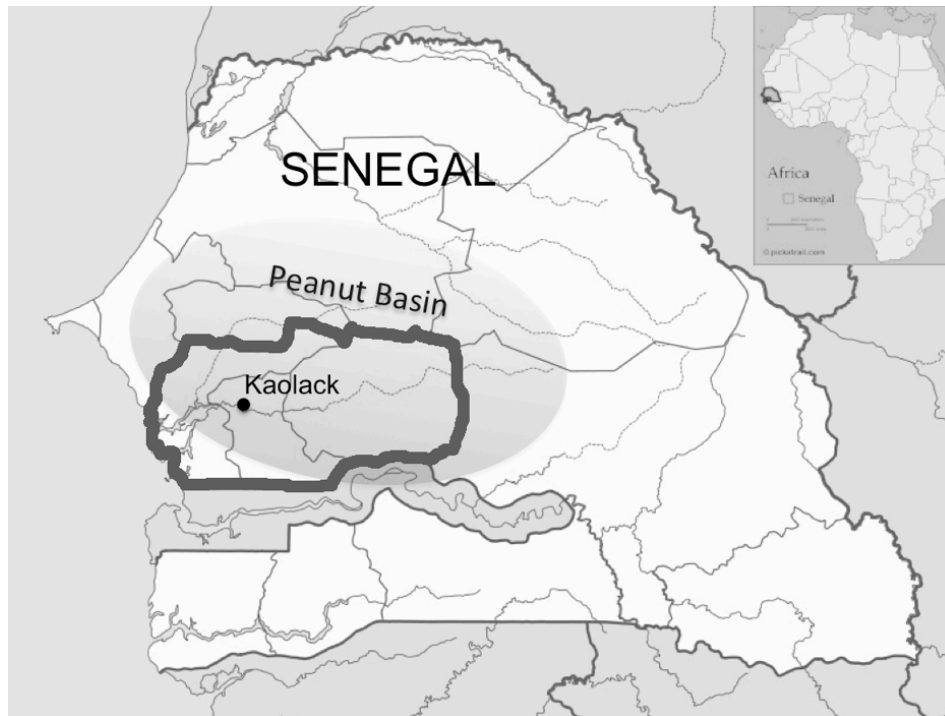
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TABLES AND FIGURES

**Figure 1**

The location of study area in Senegal. The dark border indicates the extent of the former Fatick and Kaolack Regions. (Today this area is split among three regions.) The shaded oval indicates the approximate extent of the Peanut Basin. (adapted from Agence National de la Statistique et de la Démographie, République du Sénégal.)

Respondent	Count
chiefs & elders	14
farmers	9
forest guards	16
herders	8
rural councilors	8
women	24
forestry administrators	5
local forestry agents	4
project staff	9

Table 1

Distribution of the 97 semi-structured interviews among types of respondents. In addition to formal interviews, the author conducted informal observations and discussions.

Rule-breaker	count
Man (other village)	13
Woman (same village)	1
Woman (other village)	1
Herder	2
Unknown	1

Apprehender	count
Man	4
Woman	4
Village guard	6
Unknown	4

Infraction Type	count
Cutting tree	9
Lopping branches	5
Picking fruit	0
Cutting firewood	3
Unknown	1

Was the forest agent involved?	count
No	6
Yes	10
Rule-breaker escaped	1
Unknown	1

Table 2

Reported village rule-breaking in one rural community, over approximately the period 2006-2010. Overall, respondents reported 18 infractions across 10 villages.

Infraction Type	count	average fine (fcfa)
Cutting tree	3	25,000
Lopping branches	2	21,000
Illegal sale	1	15,000

Table 3

Forest code infractions recorded in log book of the forest service agent for the same rural community as above, covering the period 2009-10.