DECENTRALIZATION AND LIVELIHOODS IN THE MALIAN SAHEL: CHALLENGES OF LEGAL PLURALISM IN DECENTRALIZED NATURAL RESOURCE MANAGEMENT

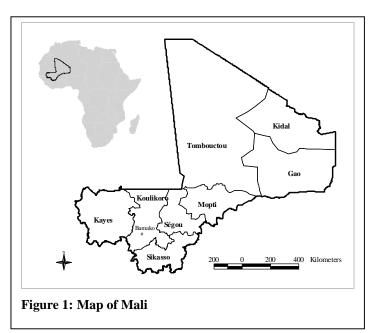
Charles Benjamin¹

Draft paper for presentation at the 11th Conference of the International Association for the Study of Common Property, Bali, Indonesia, 19-23 June 2006

INTRODUCTION

Global trends toward democracy and decentralization have created unprecedented opportunities for popular participation in local governance and increased local control over natural resources (Colfer and Capistrano 2005, Ribot 2004, Ribot and Larson 2004). A majority of developing countries have implemented some form of decentralization, and many of them have decentralized some aspect of natural resources management (NRM) (Agrawal and Ostrom 2001, Ribot 2002). Decentralization reforms have sought to remedy some of the negative consequences of highly centralized post-colonial states by creating governance structures that aim to harness the abilities, knowledge, and incentives of rural people. In many countries, decentralization has not only redistributed power but also created new forms of local government, which are superimposed on customary governance structures. Rooted in shared social history, customary natural resource institutions embody livelihood concerns and reflect the spatial and temporal patterns of emergent livelihood strategies. Policy-makers commonly regard them as potentially adaptive but fundamentally non-democratic. Yet, despite their potential advantages, nascent local governments generally lack the legitimacy and adaptive capacity of customary institutions (Ouedraogo 2003). As a result, customary institutions persist, co-exist and interact uneasily with state-sponsored governance institutions. This unresolved legal pluralism undermines the authority of nascent local government and compromises the performance of community-based institutions. The manner in which it is resolved plays a central role in shaping state-society dynamics that emerge from decentralization.

Drawing on recent experiences from central Mali, this paper argues that the effectiveness decentralization depends of democratic largely on how it embraces customary governance structures and how it reconciles the bottom-up organizing principles of rural livelihoods with the top-down process of resource policy reform under decentralization. The research takes a bottomup approach to address the question of how local livelihood strategies and institutional capital shapes decentralization and to highlight the interplay of communities and local government. Focusing on this interplay allows us to discern what disjunctures exist between them, how they are reconciled, and how this process shapes incentives and opportunities for local resource managers. Where relations between communities and



¹ Center for Environmental Studies, Williams College, Williamstown, Massachusetts 01267, USA; Charles.Benjamin@williams.edu

local government are hostile, decentralization at best perpetuates the "sterile dualism" of impracticable statutory institutions and unauthorized customary institutions (Onibon *et al.* 2000). At worst, it compromises local livelihoods by undermining community-based institutions without offering effective alternatives or by introducing new avenues of competition for resources between local users and decentralized local government. Where these relations are positive, decentralization can create synergy between the state and local populations, improve the effectiveness of local NRM, and perhaps redress historical inequities.

Policy analysts consider Mali to be a particularly successful example of West African decentralization (Clark 2000, Smith 2001), though it shares many challenges with other developing countries institutionalizing the balance of power between central and local government, establishing legitimate and effective government, and reconciling customary and 'modern' legal traditions, including those related to natural resources. It is typical of other francophone African countries in having created multi-village, general-purpose local governments - rural communes - and de-legitimating customary governance institutions. This paper examines the experience of three Malian communities reconciling inconsistencies between local management systems and decentralized natural resource policy. The communities have taken different approaches to organizing community-based natural resource management under decentralization: village autonomy, local government, and negotiated local agreements. Their experiences illustrate some of the tensions that result from contradictions in the organizing logics of community, local, and national approaches to natural resource management. They suggest that flexible approaches to reconciling these differences can result in innovative solutions to seemingly intractable problems. They present the possibility of incrementally developing effective governance structures and organizational hybrids that are based in the knowledge, incentives, and capabilities of communities and draw upon the relative strengths of diverse local stakeholders.

THE PROBLEM OF LEGAL PLURALISM

Patterns of natural resource use and management shape the temporal, spatial and social scales of coordination for collective action. In Mali and throughout much of the semi-arid tropics, environmental variability and uncertainty poses conditions of insecurity, scarcity and risk for resource-dependent populations. Households diversify livelihood activities as a strategy for managing this risk, drawing on a variety of natural resources – farmland, pasture, forests, and fisheries. Livelihood patterns entail various degrees of mobility, based on the geography of resource availability. Households range over different spatial areas – 'action spaces' – in pursuit of secure and adequate livelihoods "in relation to changing structures of opportunity and constraint (Painter et al. 1994:460)." Most natural resource users therefore find themselves involved in a variety of collective action situations and engaged in multiple institutional processes organized at different scales. The institutional arrangements that emerge out of aggregate patterns of collective action are best described as polycentric – multiple governing authorities at different levels, some general purpose and others specialized (see Ostrom 1999:528). Institutional arrangements for natural resource management in rural Mali are embodied in an array of overlapping and interacting governance structures organized at different levels: land tenure, forest management associations, reciprocal access rights, village chiefs and councilors, village assemblies, water shamans and collective fishing practices, and traditional rules governing livestock corridors. Polycentric governance permits communities of resource users, constituted at different levels, to adapt rules to changing environmental conditions and to shifting composition of users groups.

Research has increasingly recognized the importance of pluralism in on community-based natural resource management (Agrawal and Gibson 1999, Anderson *et al.* 1999, Wollenberg *et al.* 2005). Local political economies are shaped by the interaction of multiple stakeholder groups with potentially divergent interests and power attributes. The literature on decentralization highlights its potential to accommodating multiple interests and to realign administrative and natural resource policy to more

closely reflect local circumstances. Legal pluralism – the coexistence and interaction of multiple legal orders – has received comparatively little attention (Meinzen-Dick and Pradhan 2002). Yet throughout Sahelian West Africa and much of the rest of the world where local practice survived the centralized state, decentralization has superimposed new, statutory laws on customary, community-based institutions (Thomson 2000). Focusing on the dynamics and effects of legal pluralism points toward innovative institutional arrangement for fostering state-society synergy under decentralization.

Legal pluralism has long been a focus of anthropological inquiry, rooted in the study of "folk" legal systems under colonial rule (Merry 1988, Moore 1978, Moore 2001). It broadly encompasses "the interaction between normative orders that are fundamentally different in their underlying conceptual structure (Merry 1988:873)." These normative orders may include state (or statutory) law, religious law, customary law, project (or donor) law, organizational law, and other local norms (Meinzen-Dick and Pradhan 2002). Their relative influence is shaped by the formal linkages between different legal systems, the power of different stakeholders, and the context in which rights are exercised (Wollenberg *et al.* 2005). Local actors are faced with choices among institutions rooted in different legal orders and therefore difference sources of legitimacy, a phenomenon described as 'forum shopping' (Benda-Beckmann 1981). Because powerful local actors can benefit from selective reference to potentially divergent rule systems, forum shopping is a central arena of local political economy. Choosing among institutions can be an adaptive strategy through which individuals and communities draw upon a range of legal options to craft effective management systems. But it can also create uncertainty and compliance problems, particularly where the institutional environment changes (e.g., through the reform of tenure laws under decentralization).

Tensions between central governments and local populations over natural resources are well documented (Pelsuo 1993, Scott 1998), as is the remarkable capacity of communities to self-organize NRM regimes in diverse settings (Agrawal 2003, Ostrom 1990). Communities have met authoritarian approaches to NRM with many forms of resistance, including tenaciously holding onto traditional NRM institutions (Scott 1987, Wilshusen 2003, Wunsch and Olowu 1995). With the transfer of power from the central government to lower levels in an administrative and territorial hierarchy, proponents expect decentralization to foster representative, accountable local government that is better able to discern and respond to local needs and aspirations (Crook and Manor 1998, Ribot 2004). However, the evidence for positive relationships between decentralization and improved governance is inconclusive (Azfar *et al.* 2001, Blair 2000, Crook 2003, Smoke 2003). Decentralization of power over natural resources has frequently led to elite capture of benefits or to increased competition between communities and cash-strapped local governments (Edmunds and Wollenberg 2004).

Communities and local governments generally have different attributes, incentives and capacities for natural resource management. Local governments are built upon statutory legal systems that draw their legitimacy from the legal-rational system of state administration. New rules and regulations that define how people may use, manage, and own different types of resources are also based in statutory systems. By contrast, traditional institutions are rooted in customary law, which emerges from shared social histories and embodies local practice and capacity for collective action. Customary laws encompass "rights that are transformed through social rather than legal mechanisms, the legitimacy of which is rooted in tradition rather than legal statute (Grigsby 2002:152)." The social mechanisms that underpin

Agrawal and Ribot (1999) argue that two features in particular are important for democratic local government to function properly: *downward accountability* of local government to their constituencies and the secure transfer of *discretionary powers*. Downward accountability through elections, lobbying, and other pathways promote facilitate greater efficiency and equity of public service delivery through the alignment of decision-makers' incentives with the interests of local groups. Discretionary powers permit local leaders to make meaningful decisions for their constituencies.

customary law frequently reflect and reinforce asymmetrical power relations and exclusion on the basis of social identity, such as gender, ethnicity, and age (Agrawal and Gibson 1999, Wilshusen 2003). This is a major reason that they are seen as inimical to rural democratization (Ribot 1999, 2004). Ambiguity in the relationship between statutory and customary law is common as a result of either design (e.g., leaving intractable issues unaddressed) or inadvertent contradictions and inconsistencies. But even where state law clearly spells out the relationship between custom and statute, local communities may resist legal prescriptions that do no fit their social realities and livelihood strategies. In much of West Africa, "[t]he attitude of the people to decentralization is comparable to that of pre-independence rural populations confronted with the French colonial administration's per capita tax: an attitude of passive resistance to a new authority whose legitimacy is not recognized (Ouedraogo 2003:101)."

Policy-oriented studies generally approach the mixed outcomes of decentralization by focusing either on how power is distributed and exercised under different institutional arrangements (Agrawal and Ribot 1999, Ribot and Oyono 2005) or on how different political and economic factors shape the performance of local governments (Andersson *et al.* 2005, Larson 2002). But understanding the outcomes of decentralization also requires understanding the coexistence and interaction of decentralized local government (in which decentralized powers are generally vested) and community-based governance structures (where local knowledge, capacity and institutional capital are situated). Focusing on legal pluralism underscores the dynamic and evolving nature of these outcomes. State-sponsored governance reforms must enable resource users to organize in ways that are appropriate for effective collective action – ways which sustain both the livelihoods of multiple actors and the diverse products and functions of their ecosystems. This is not simply a matter of authorizing communities to continue organizing along traditional lines, but also of providing a framework that enables them to organize in unprecedented ways, to secure livelihoods, to enhance representation and accountability, and to find innovative solutions for intractable problems.

DECENTRALIZATION IN MALI

Like many Sahelian countries, Mali embarked on a process of profound political reform in the early 1990s, after the overthrow of the authoritarian Traoré regime in 1991. The Traoré regime shared many qualities with other post-colonial African governments, including a top-down rural administrative structure that disenfranchised rural populations; a highly centralized, command-and-control approach to natural resource policy; and a repressive natural resource bureaucracy. Mali's contemporary legal, political and administrative systems continue to bear these impressions of its colonial legacy. Over the past 15 years, Mali has sought to build democratic local government and decentralize control over natural resources. But the formal governance structures and policies it has put in place have done little to resolve the tension between statutory and customary authority or between the administrative drive toward uniformity and control and the inherently dynamic nature of local social ecological systems.

Reinventing government.³ Mali's decentralization framework has three basic dimensions: the creation of local government with the legal authority to make and enforce rules and regulations (legal personality), the gradual transfer of specific powers from central government to communes, and the reorganization of the central government (Diallo 2002). The rural commune is the core unit of decentralized local government, an administratively and financially autonomous entity that groups between 11 and 45 villages. The country is divided into 701 urban and rural communes, each presided over by a freely elected council, which elects a mayor from among its members. The mayor assures the executive

Between 1992 and 1997 the National Assembly passed eleven pieces of legislation establishing the legal framework for decentralized local government (Seely 2001). The two core laws are the 1993 Decentralization Law (Law no. 93-008, *déterminant les conditions de la libre administration des collectivités*) and the 1995 'Decentralization Code' (Law no. 95-034, *code des collectivités territoriales*).

functions of the commune, along with a number of professional administrators (the most important of whom is the secretary general), while the council itself serves as a deliberative and legislative body.⁴ However, the central government has oversight authority, and a local delegate must approve all local government decisions.⁵

Villages continue to be the fundamental unit of rural social organization in Mali, but they are not constituted as domains of local governance under decentralization. Communities as corporate bodies have no explicit powers and no collective choice authority. They cannot independently make or change rules. They cannot enforce rules or impose sanctions on rule-breakers. And they cannot restrict access to specific areas or species within their territories. Any powers they gain in this sense must be transferred to them through an agreement with the state or local government. Each village, nomadic fraction, or neighborhood has a chief, who is selected by its community council and confirmed by the local government delegate. In practice, chieftaincies are generally hereditary within the village's founding family, though villages have departed from this practice when they have concerns about honesty or competency. The formal administrative system empowers chiefs as interlocutors between community members and communes. They are also responsible for coordinating development activities; for applying rules, regulations and decisions of the commune; for communicating the needs of the community to the mayor; and for collecting taxes.

Decentralized forest policy. Communes are tasked with managing, improving, and conserving natural resources, as well as "maintaining ecological equilibrium." But in spite of their broad mandate, local governments have so far been granted very limited power over natural resources. Between 1995 and 1998, the government produced over 25 natural resource laws and regulatory orders (Winter 2000). They addressed all sectors affecting rural livelihoods: land tenure, forestry, pastoralism, wildlife and fishing. The new laws retained many of the features of their predecessors, while creating some opportunities for a greater degree of local management under carefully defined conditions. However, the actual transfer of powers (*compétences*) under these new laws requires regulatory orders prepared by relevant line ministries. Not surprisingly, most transfers have stalled at this stage, a fact that local observers attribute to the complexity of resource tenure and to resistance from the state bureaucracy.

The 1995 Forest Code illustrates some of the major obstacles to local control posed by sectoral legislation. Like early versions, the revised Forest Code defines different types of forested domain, establishes protected species, and describes a system of permits and fines. Individuals are guaranteed

4

A national Decentralization Commission worked with local delineation committees to identify the possible communes on the basis of population, economic viability, geographic continuity, accessibility of seat of the commune, and social solidarity among the population (Rawson 2000). The result was the creation of 701 urban and rural communes, including the 19 pre-existing and 682 new communes, each with an average of 44 villages (Thomson 2000). The number of both councilors and adjuncts depends on the population of the commune (Law no. 95-034, art. 6 & 58).

Local government deliberations must be (1) conducted in collaboration with professional organizations and technical services and (2) compliant with national laws and regulations.

Sub-communal entities are treated in Law no. 95-034, chapter 3, articles 60-73.

In principle, these councils are elected in general assembly of the community, with 5-7 councilors allowed in rural communities and up to 5 councilors allowed in urban neighborhoods

Law no. 96-050 of 11 October 1996, portant principes de constitution et de gestion du domaine des collectivités territoriales (article 10)

Under the new legislation, a local governments can establish a territorial domain, which must be transferred to them by the central government on the basis of a land management plan [schéma d'aménagement de territoire] specifying different land-use zones: forest, agricultural, pastoral, wildlife, fishery, mineral, and habitation. The state must approve land management plans, though administrative procedures are not clearly defined.

The Forest Code (Law 95-004) establishes the general conditions of forest management; Law no. 95-003 specifies requirements for the exploitation, transportation and commercialization of forest products.

rights of subsistence. They also have *de facto* commercial rights to forest products that are not the object of a regulatory order, including many non-timber forest products (NTFP). Unlike earlier legislation, the new Code enables local governments to own and dispose of a forest domain and gives them the powers to place additional restrictions on their forests (but not to repeal restrictions in the Forest Code). It also gives them the power to delegate managerial authority over its forests to non-governmental entities, including local communities, traditional authorities, cooperatives, and private operators. This is the principal means by which power over forest resources can be vested in local communities.

However, before the transfer of power can happen, the state must transfer management rights to local governments. Transfer requires a forest management plan (*plan d'aménagement*), including an inventory of forest resources and an annual harvesting quota. These complicated forest management plans reflect the general technocratic preoccupations of Malian natural resource policy, which creates onerous administrative regulations, limits the ability of local populations to participate and thus perpetuates the gap between policy and practice (Cissé and Doumbia 2002, Kerkhof 2000). Communities and local governments rarely have the resources or technical expertise to independently develop or execute forest management plans. As a result, most existing plans have been prepared by NGOs or consulting firms. The Forest Code does not require the preferences of local communities to be reflected in the preparation of management plans – only that customary authorities be consulted. Furthermore, forest management plans until now have prioritized commercial uses (fuelwood and construction materials) and generally ignored other forest products, which are generally very important to local livelihoods (Becker 2001). And quotabased management plans are also notoriously difficult to develop in dry tropical woodlands, where climatic variability makes resource availability difficult to predict.

Local governments can contractually delegate their limited powers over natural resources to "all physical or moral persons, public or private," including but not limited to customary authorities. ¹² They can also confer on customary authorities or other local actors the power to enforce rules (as they are decided by the commune). In this manner, villages and other sub-communal entities can legally access the resources to which they hold customary rights. However, villages are placed in an uncertain situation, because these decisions are made at the discretion of local government councils. The extent to which communities are able to legally gain managerial control over land and forest resources depends on the degree to which they are able to leverage their claims in local government. Their powers are therefore tenuous at best and subject to the vagaries of 'local' politics.

Persistence of customary institutions. Many Malian villages maintained customary NRM regimes in some fashion over decades of generally hostile relations with centralized governments. Under decentralization, these local institutions continue to be largely extra-legal at best or illegal at worst (Benjaminsen 1997, Thomson 1995). Nonetheless, many local initiatives emerged spontaneously throughout the country after the downfall of the authoritarian regime in 1991. Communities organized out of both necessity and opportunity. On one hand, the Forest Service was less likely to intervene in forest protection in the chaos following the collapse of the central government. This institutional void left by state disengagement compelled villagers to take action to prevent a free-for-all in the absence of the state's authoritarian presence. On the other, the emergence of a policy environment more tolerant of self-organization led to new popular perceptions of rights and responsibilities.

Permits are required for many personal uses – clearing new fields and reclaiming fallow under fallow for over 10 years, cutting trees for animal pens and construction. While these are generally provided for free, many rural people assume they will be fined collectively during annual visits by forestry agents and are reluctant to assume the costs of obtaining permits.

Law no. 96-050, articles 14 & 23

Communities drew from a variety of institutional options – some legal and others extra-legal – as to craft innovative rule systems for communal forests, pastures, and waterways. In many cases, they drew upon historical experience with self-organization. In very few cases were these initiatives informed by an understanding of statutory power based in national legislation. Community-based forest management regimes generally share several common elements: (1) operational rules that determine, for example, who may access resources, what techniques can be used to harvest, when resources may be accessed by authorized users; (2) enforcement brigades who monitor forests and apprehend people who break rules; (3) fines, which are often negotiable depending on the severity of the offense and the attitude of the rule-breaker; and (4) community associations/forums—either specialized or general purpose—responsible for making, changing, and applying rules. Decision-making follows collective choice arrangements particular to individual communities, such as specialized committees or *ad hoc* assemblies of male villagers or household heads. Villages vary in the degree to which power is concentrated in the hands of the chief, the role of the chief's councilors, the scope of villagers' participation in deliberations, and the role of consensus in making decisions.

The village clusters surveyed for this study provide numerous examples of local natural resource systems that either developed or persisted in the institutional vacuum created by state centralization and the chaos that ensued after its demise. The 19 villages concerned in this study (4 study villages and 15 neighboring villages) contain 38 distinct common-pool resource (CPR) regimes, 24 of them forest management regimes (Table 1). Seven of the forest management regimes are indigenous initiatives started before Independence in 1960, seven were implemented in the post-Independence era, and eleven were created after the fall of the Second Republic in 1991. A number of the post-Independence and post-1991 CPR regimes are reinventions of earlier institutions. Others are distinctively 'modern,' regimes that, although largely unprecedented in village histories, developed in response to changing social, economic, and ecological conditions.

Table 1: Village-initiated common-pool resource regimes

Resource Type	Pre- Independence	Post- Independence	Post-1991
Forest/woodland	7	7	10
Bourgou pasture	4	3	
Fishery	4	1	
Agricultural land (patrols)	3		

The creation of local government in Mali has so far done little to relieve the tension between government and communities. Nor has it resolved the ambiguous legal and institutional pluralism resulting from the co-existence of state and community natural resource governance systems. Paradoxically, Mali has decentralized by devolving powers through policies that impose strict administrative requirements; yet these policies give local elected officials great discretion in how they engage with communities and customary institutions. Local government officials are required to consult with customary village authorities – chiefs and councilors – in all land-use decisions. But government officials are under no *legal* obligation to consider either traditional institutions or the views of the village authorities. Whether decentralized local governments engage synergistically with communities depends on the political nature of their jurisdictions and the bargaining power of the communities. By placing natural resource governance under the discretionary power of local government in an ambiguous and potentially highly politicized institutional environment, decentralization runs the risk of undermining livelihood security and management capacity in communities (Benjamin 2004).

METHODS

Given the multiplicity of legal orders at the local level, Meinzen-Dick and Pradhan (2000) suggest that study of local natural resource management should start with the perspective of resource users to examine the factors that shape their choices among institutions. Such an approach is useful in understanding how communities adapt to decentralized natural resource policy. A bottom-up perspective underscores the complexity of rural people's concerns, incentives and decisions. It goes beyond the normative theory of decentralization to explore the experiences of communities in navigating a changing social and political environment.

This study paper compares the experience of three communities in central Mali. ¹³ Each community has followed a different pathway for managing natural resources under decentralization. The community studies focus on how community members constructed sustainable livelihoods, what types of institutions they developed to manage common-pool livelihood resources, and how communities adapted their practices and institutions to broader governance structures.

The first community, Badiari, has maintained a traditional forest management association for almost 90 years. The community has made an effort not to engage with either the state or local government, to the extent that is possible. It has faced the challenge of operating in

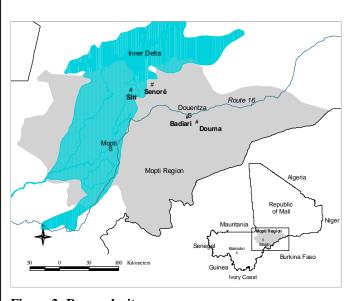


Figure 2: Research sites

stealth – staying off of the government's radar – which has allowed the association to persist but has ultimately compromised its performance. The second community, Douma, has worked with its decentralized local government to organize an institutional regime to protect a vast wooded savanna from commercial grass and wood harvesters. Its regime ultimately failed—due in part to the very limited powers it was able to exercise and in part to the inability of the commune to overcome social divisions within the village. The third community, Senoré, has partnered with an NGO to overcome an enormously complex tenure situation. With the NGO, Senoré negotiated a local NRM convention that brings together several neighboring villages, the local government, and state technical agencies. Local conventions are negotiated, voluntary contracts that establish enforceable rights, responsibilities and dispute resolution mechanisms among multiple stakeholders. The conventions provide a mechanism for managing local specificities through negotiated rules and reconciling legal ambiguities in national legislation. While debate continues about their legal basis (see Djiré 2003), they have gained currency among proponents of community-based natural resource management in the Sahel because of their ability to reconcile diverse

Only three of the four villages are presented in this paper. Abbreviated studies were conducted in all villages with contiguous territories to the four in-depth communities. Each neighboring community study was generally conducted over a two-day period, using a standardized data collection protocol. The protocols include information on community attributes and history, local livelihood systems, use of wild plant products, common-pool resources and institutions, and relations with neighboring communities over natural resource issues. The research team collected data through focus groups and semi-structured interviews with village leaders, such as the chief and councilors, traditional healers, and occupational specialists.

interests and priorities in situations where boundaries may be unclear and access rights overlap (see Lavigne Delville *et al.* 2001).

Fieldwork was carried out between 2001 and 2002. The author worked with two Malian research assistants, one male and one female. We spent approximately 1.5 months living in each village and made additional visits over a 14 month-period. The principles of the International Forestry Resources and Institutions (IFRI) Program guided the methodological and theoretical orientation of this research. IFRI employs an array of qualitative and quantitative research tools to collect, organize, and analyze data about communities, forest resources and institutions (Ostrom and Wertime 2000). Following these broad methodological orientations, this study integrates social and ecological data on multiple levels, using a combination of methods, including survey questionnaires, forest inventories, semi-structured interviews and participant observation (IFRI 2001). We complemented standard IFRI methods with individual and household surveys. The research team conducted a census of all households in each of the four case study villages to characterize the socioeconomic composition of the community. The survey instrument included data on household composition, asset ownership (transportation, communication and agricultural implements), livelihood activities (twelve-month recall) and production strategies (livestock ownership and agricultural production). Household data were compared against the results of individual surveys.

COMMUNITY STUDIES

Badiari

Badiari is a Nadiamba Dogon village that has maintained a customary forest management regime under decentralization, independent of state or local government involvement. The regime dates to the early 1900s, when villagers self-organized to protect a 105-hectare *Acacia albida* agroforestry park, Borogo, from damage by herders. *A. albida* pods have high fodder value and are an important source of cash income for all households, which either sell them unprocessed or use them to fatten animals for market. The village of just over 200 people is situated eight kilometers to the south of Douentza, the area's principle administrative and market center. The community has a high degree of social cohesion due to its small size, shared ancestry and vibrant age-grade associations. These qualities – strong social capital and shared economic interests – have enabled Badiari to maintain its forest institution under potentially hostile circumstances. However, as in many other Malian villages, the absence of authorization from the state has compelled the community to maintain its forest institution clandestinely and has therefore compromised its effectiveness.

Badiari is located in the rural commune of Koubewel Koundia in the Cercle of Douentza. The commune consists of fourteen villages with a total population of approximately 9,300 people, most of whom are Dogon. All of the eleven councilors in the commune are Dogon, although none comes from Badiari or its near neighbors. All of the constituent villages of Koubewel Koundia maintain customary forest institutions and surveillance patrols. However, the commune itself has not become involved in forest management because it has prioritized other activities, because of the limited scope of powers it has been transferred, and because the councilors view forest management as essentially an affair of villages.¹⁵ Badiari has adopted a generally defensive posture toward the commune and takes a cautious view of outside agents in general.

¹⁴ A household is defined as a group of people who produce and consume collectively. They are generally composed of one or more nuclear families.

The organization of forest patrols was placed on the first 3-year communal development plan (2001-2004), but no action has been taken. It is unclear what legal mechanisms ultimately will be used, whether they will conform to customary institutional arrangements, and what the budgetary constraints may be.

The foundation of forest management in Badiari is the Beme, a community association comprised of all male villagers between the ages of 15 and 55. The Beme is responsible for management decisions, monitoring, and enforcing forest use rules. The primary focus of these rules is the protection of *A. albida*. The quantity and location of *A. albida* pod collection is unregulated and is open equally to residents, seasonal residents, and non-residents, but the Beme assures that pods and leaves are collected in a manner that does not damage the trees. Specifically, there are restrictions against cutting or breaking branches, against using long-handled hooks to access pods from the ground, and against throwing objects into trees to dislodge pods.

All members of the Beme must participate in the forest patrol on a rotational basis. Each person is required to patrol once every two weeks. Patrol involves walking a circuit in the forest twice each day, just before sunrise and just after sunset when villagers are unlikely to be in the fields, and checking trees for damage and apprehend rule breakers. Surveillance continues through the dry season, until the beginning of the rainy season. When the Beme patrol is not active – generally during the agricultural season – the forest is considered open access and there is no rule enforcement. However, the production of leaves and pods is generally low during the short period of unregulated use.

Rules are made and changed in general assembly of the village, in which elders and Beme members participate. The most recent major change was made in the late 1990s, when the Beme started allowing herders to pay a cash fine for violations in lieu of seizing an animal. This was necessary because, increasingly, contract herders brought the animals of others onto the territory and were not authorized to give up an animal that did not belong to them. The Beme chief, who is selected in general assembly for a life term, has the authority to make exceptions to all rules. For example, he may allow individuals with young or sick animals to harvest pods and leaves using more intensive techniques or he may allow the cutting of trees to satisfy personal needs. Rule breaking *among the villagers* is common although not egregious, but the Beme is far less tolerant with outsiders. During fieldwork for this study, researchers observed numerous villagers breaking rules without being fined, whereas several Fulani herders were fined for cutting small branches.

In order for customary institutions to persist, they must avoid conflict with the Forest Service. Due to its proximity to Douentza, Foresters frequently visited Badiari in the 1970s and 1980s, carefully monitoring its forest and imposing fines for even small infractions. In one notable case, the chief of the Beme was fined 100,000 FCFA (US\$200) for having constructed a fence around his garden with thorny branches of a *Prosopis africana* that he had himself planted. During this time, the Beme assumed a lower profile because of these antagonistic relations. Villagers felt that if people were to protest Beme enforcement actions to the Forest Service, the Forest Service would direct retribution toward Badiari and not the rule breakers.

Shortly after the 1991 coup, villagers negotiated with the local forestry officer to patrol their own territory. Although new legislation had not yet been passed, foresters were under pressure to accommodate local preferences and initiatives because of the general spirit of local empowerment that infused public discourse. The head of the Douentza forestry post agreed in principle to recognize the villagers' right to manage their forest, though there was no legal basis for him to do so. The move was purely discretionary and could easily have been reversed by a less sympathetic replacement. Moreover, rights extended only to patrolling in order to assist the Forest Service enforce national forestry laws. Villagers were not granted the power to make or enforce their own rules.

The lack of legal authority notwithstanding, forestry officials recognize that communities sanction people who break customary rules, generally by seizing an animal. They also recognize that local fines are generally lower than those of the Forest Service, which discourages appeals to the state when enforcement actions are taken for violations of customary rules. The foresters take a "don't ask don't tell" approach,

refusing to intervene until local practice is challenged. When local rules are challenged, the Forest Service is compelled to follow the legislation. Several high-profile court cases in Douentza have tested the jurisdiction of customary institutions, and a number of villagers have been imprisoned or fined for enforcing their customary forest rules—even in cases where the Forest Service gave its tacit support. In the late 1990s, for example, the deputy Beme chief seized and slaughtered a goat from a Fulani herder caught cutting a tree in Borogo. The Fulani herder appealed first to the Forest Bureau and, when the forester refused to get involved, then appealed to the Court. The judge ruled against the Beme and sentenced the deputy chief to several weeks in jail. After the intervention of a number of prominent people, including the chief forester, the judge changed the sentence to a stiff fine that was ultimately paid with community funds. Judicial decisions such as this clearly demonstrate the limits of informal arrangements and good intentions of foresters.

The Beme illustrates one of the key constraints of customary institutions that have persisted under decentralization – they operate without authorization from the state. The clandestine nature of customary institutions inhibits fruitful engagement between conservation-minded communities and the state and compromises institutional performance. Villagers are aware of the limits of their power, and they must choose their battles carefully. As a result, the Beme focuses enforcement to prevent the cutting of mature trees, while overlooking low-level rule-breaking (e.g., grazing animals on saplings, clearing seedlings from forest fields, climbing trees to harvest pods). Empirical evidence confirms that rules have protected mature trees but have done little to promote recruitment or to maintain species diversity.¹⁶

Douma

While Douma initially attempted to establish a forest management regime similar to Badiari's, the community was compelled for a number of reasons to work directly with its local government. In late 2000, Douma organized itself to protect a vast area of savanna woodland from exploitation by urban-based commercial wood and grass harvesters. The village initially exhibited great motivation, but internal and external conflict eventually led to the effort's collapse. Douma's experience illustrates the challenges to both communities and nascent local governments in navigating decentralized natural resource policy. Where communities have adequate political leverage, they can mobilize decentralized local government to implement community-based NRM, but such initiatives can be compromised by social differentiation within communities and by lack of support from the central government.

Located seventeen kilometers by dirt track from Douentza, Douma is a mixed ethnic village, populated primarily by autochthonous Dogon and, though more recently arrived, more numerous Fulani. The number of inhabitants fluctuates dramatically because of the Fulani villagers' transhumant lifestyle. The population, calculated at just over 660 people during the time of the survey (March 2002), swells to over 5,000 when herders return during the rainy season. The landscape is largely wooded savanna, with an open tree canopy, a relatively continuous herbaceous layer, and scattered millet fields. The elevated grasslands support large herds during the rainy season, when the pastoralists return from transhumance. More heavily vegetated depressions support the sedentary herds of the Dogon during the dry season. It is common to find herds of goats browsing on tree fodder in the woodlands during the dry season, after the large Fulani herds have left for the flooded grasslands of the inner delta.

Communal politics are dominated the largely absentee population. Douma is one of two large, predominantly Fulani villages in the rural commune of Kerena, which is composed of three villages with

Observations from transect walks are supported by forest inventory data. Stem density is 67 stems/ha for trees (DBH ≥ 10cm) and 79 stems/ha for saplings (2.5 cm ≤ stem Ø < 10 cm); total number of species capture in sample plots is 12 for trees and 6 for saplings; and the most economically important tree species, *Acacia albida* did not occur among saplings.

a total population of 8,600. Although they are absent for most of the year, the Fulani are registered to vote in Douma. Their numerical advantage on the electoral roles translates into political control of the commune and permits them to maintain influence over the Dogon. All eleven councilors in Kerena are Fulani and six, including the mayor, are from Douma. As a result, the interests of the Fulani of Douma are solidly represented on the communal political agenda.

Growing pressure from commercial grass harvesting and wood cutting motivated the village chief and council to close the northern part of the village territory to outsiders, reserving the zone for Douma residents. They adopted a system of permits and fines for commercial harvesters in the southern part of the territory and reinstated a traditional ban on cutting tree fodder. Initially established in the 1960s, the practice of fining herders caught cutting tree fodder had been abandoned in the 1980s under pressure from the Forest Service. To monitor and enforce these new rules, the village created a surveillance brigade composed of two individuals from each of seven neighborhoods. Guards patrolled in pairs irregularly – several times each week. They impounded the carts of rule breakers until their fines were paid, confiscated contraband grass and wood, which the chief distributed among the villagers, and seized animals from herders caught cutting tree fodder.

Wood collectors, who were primarily from neighboring villages, resisted Douma's crackdown. They argued that they had historically shared access to both wood and grass. The village chief capitulated but requested that he be informed before wood-collectors entered the territory. In practice, therefore, the rules targeted only the commercial grass harvesters, who were primarily low status Bella from Douentza. But most of the Bella operate carts under contract; most carts belong to merchants, high civil servants and government officials in Douentza. The cart operators initially challenged the fines to the village chief, who lowered them from 2500 FCFA to 1000 FCFA (from US\$5 to US\$2). Subsequently, the cart owners protested the entire system to the government delegate in Douentza, the *Commandant de Cercle*, who (under this pressure) issued a moratorium in February 2001, until it could be studied further. When the Commandant issued this decision, he informed community leaders that the village had no power at all to limit access or demand payments from outside resource users. Under decentralization, only the commune had the power to make decisions about land management, and the nature of such powers was still under deliberation at a national level. If the people of Douma wanted to protect 'their' territory, they had to work through the commune.

Because of its political domination of the commune, Douma was able to quickly mobilize an *ad hoc* meeting of the communal council, which essentially codified its regulations as communal policy. The commune issued an administrative decree and submitted it to the commandant, who rejected it under his oversight authority. He agreed that the commune could sell and enforce grass-harvesting permits, as long as the guards were clearly identified. But he argued that responsibility for trees lay with the Forest Service because powers had not yet been transferred to communes. The commune proposed simply monitoring permits issued by the Forest Service, but the forester rejected the proposal.

With the Forest Service's unwillingness to cooperate, the commune abandoned its broader plans and focused only on grass harvesting; however, it pursued formal administrative procedures no further. In reality, neither grass nor wood management system had a legal basis at the time—the commandant's decision was based largely on his discretionary interpretation of local circumstances in order to mediate potential conflict. The mayor deputized 25 village youth with powers of judiciary police so that they could patrol and issued them identification (an *ordre de mission*). The mayor and the village chief sold harvesting permits and managed revenues. The guards abandoned cart seizures to avoid confrontation with powerful cart owners. Instead, they simply confiscated contraband grass — either taking it to the

These cart owners include the mayor of the urban commune of Douentza and the head of the gendarme brigade.

village or emptying it on the spot. But the Bella largely ignored the permitting process, which still applied only to the southern zone, and continued to harvest grass clandestinely in the north.

By the end of the 2001 dry season, the commune had generated 30,000 FCFA (US\$60) from permits and fines. The patrol was put on hiatus during the rainy season when grass is not collected. The second season started and ended with problems that emphasized the divide between Dogon and Fulani interests. Some villagers accused those in power of pocketing revenues from permits and fines. The chief eventually required the guards to deposit confiscated grass in his compound, instead of the public square. Villagers complained that grass was not distributed equally among families. As a result, Dogon elders urged their youth not to participate in the patrol, because they gained nothing from their effort – they had few livestock and received no remuneration for their work. The village council remedied the latter problem by allotting a portion of the fines to the surveillance brigade as a group, but the amount was very small. The patrol was finally abandoned in February 2002 after a group of grass harvesters beat a Dogon guard when he confronted them. The grass harvesters left the guard unconscious and contacted the gendarmes, who confiscated the guard's shotgun and fined him for carrying an unlicensed weapon. Villagers left the guard to pay most of the fine from his own pocket. The remaining Dogon guards interpreted these events as another sign of exploitation by the Fulani and refused to continue patrolling.

Senoré

Senoré illustrates a recent trend toward negotiated agreements between local communities, local governments and the state. The agreements, or local conventions, have grown in popularity as a means of clarifying and formalizing the relation between customary natural resource management institutions and statutory policies (Diakite and Diallo 2004). An American NGO, the Near East Foundation (NEF), has worked with ten villages at the western bend of the Tarabé River over the past several years to develop this local convention, which lays out rules and principles of joint management of forests, bourgou pastures, and fisheries. As one of these villages, Senoré is particularly interesting because it retains robust customary natural resource institutions apart from its participation in the NEF-led project, and because it has resisted attempts to integrate certain traditional regimes into the 'decentralized' initiative. The different approaches illustrate the reticence with which communities engage in local government.

Senoré is a Fulani village located in the *cercle* of Douentza, seven kilometers from the nearest market town, Takouti. Located in the lacustrine zone, the village of approximately 360 people is situated at the edge of the Tarabé floodplain. Its proximity to this important waterway presents the population with an ecologically diverse territory, offering an array of functionally distinct livelihood opportunities. A sizeable flood pasture, Fimbéré, ¹⁸ and a flood forest, Kountou, provide important dry season pastures for the village's large herds. The plain and river present opportunities for fishing and recession farming. Concentrated groves of doum palm, *Hyphaene thebaica*, are a prominent landscape feature in the floodplain.

The village is located in the rural commune of Dioptodji, which is comprised of 61 villages and a population of 22,600. The seat of Dioptodji is located sixty kilometers away in N'Gouma. One councilor represents the interests of the ten villages of the Tarabé in the 23-member communal council (while Ngouma, has 7 councilors).

The political character of Dioptodji, as a vast commune with many villages, is at the opposite extreme from that of Kerena. As a very large commune, Dioptodji can mobilize greater resources than smaller communes such as Kerena. However, each constituent village in Dioptodji has less political leverage than does a single village in a smaller commune, making it more difficult to defend customary claims over

The flood pastures are known as bourgou, after the dominant plant species, *Echinochloa stagnina*.

natural resources. Senoré and other villages have independently and repeatedly sought support from communal officials to help enforce customary rules, such as opening dates for flood pastures and local restrictions on cutting doum trees. The officials, including the mayor, have consistently refused to get involved, presumably because such issues are politically delicate. It is virtually inconceivable that a single village in the commune of Dioptodji could mobilize the communal council in the same manner as Douma has in Kerena.

Senoré is a relatively recent settlement – the result of sedentarization by Fulani transhumant pastoralists. The Fulani and their captive Rimaïbé arrived in the area just after the Toucouleur invasion in 1863 and established relations with the local Bambara people. Several competing versions of the area's settlement history are used to back up claims over resources. The people of Senoré insist that they arrived in the area at the same time as the Bambara of neighboring Dari, that the village has its own territory, and that the two villages share access to resources because of their neighborly relations. Dari insists that Senoré arrived in the area later, settling on its territory seasonally and temporarily. Dari ceded control over the flood pasture – and subsequently the Kountou forest – because the population had little use for it, as they were primarily farmers. This distribution of managerial responsibilities for different resources among ethnic groups with livelihood specializations is common in the delta. But conflict over access to resources has increased as lifestyles and livelihoods change and as resources become less productive because of drought.

Senoré shares resources with many of its neighbors through reciprocal access rights and supra-village institutions. For example, Senoré permits its neighbors to freely collect fuelwood and non-timber forest products (NTFP), such as gums, pods, and fuelwood, in Kountou. In return, Senoré grazes animals on adjacent flood pastures after its own have been depleted. The Rimaïbé and Bella of Senoré participate in collective fishing with neighboring villages, which operate across village boundaries. Collective fishing is controlled by Marka shaman, whose authority also transcends village boundaries, and coordinated through an inter-village organizational structure.

The Kountou forest is ecologically and institutionally related to the contiguous flood plain, Fimbéré. Both are valued dry season pasture and are inaccessible during high water. The community has controlled access to Fimbéré for generations. The Kountou forest and management regime are more recent. The severe drought of the 1960s/70s changed the flood cycle and allowed trees to start growing on the riverbank. Seeing the nascent forest as a potentially important source of fodder, the chief and his council imposed a set of rules to use the forest in a manner that would not jeopardize its growth and development. As a result, Kountou has become a lush gallery forest and critical livelihood resource.

Access to Fimbéré and Kountou is controlled by a customary regime that sets an annual opening date and limits who may use the resources. The chief and council can authorize outsiders to graze their animals in Fimbéré for a small fee, but they take care to limit stocking levels. The chief fines villagers who graze their animals before the opening date and outsiders who graze their animals without authorization. Revenue is used for diverse community expenses, including annual fines imposed by the Forest Service for unauthorized cutting of fencing materials and roof beams.

One of the most important management decisions for both zones is the opening date, which is set by a general assembly of household heads. Timing is a point of heated debate within the village, with some taking a conservative approach and others pushing for earlier access. The longer they wait, the thinner their animals become. But if animals enter too early, they trample the aquatic grasses into the mud so that they becomes unpalatable after the water recedes. Moreover, early resource depletion in Fimbere and Kountou may leave animals to suffer as the dry season continues. The ultimate responsibility rests with the chief, who makes a decision after community deliberations. To prevent premature entry, a paid guard is posted at the crossing point for one month prior to the anticipated opening date.

Once the opening date arrives, villagers cross to Kountou with their herds with much fanfare. Only families of Senoré and neighboring Dari may graze their animals in Kountou. No one may cut trees for any purpose except the construction of huts and livestock pens. The collection of fallen wood and non-timber forest products, however, is open to residents of all neighboring villages. Rule enforcement depends on mutual monitoring, and rule breakers are reported to the chief, who, in consultation with household heads, determines an appropriate sanction. The stakes are high, given the lack of alternative dry season pasture, and the importance of the resources is widely held in the community. As one advisor to the chief explains, "we've always got an eye on Kountou."

From its field station in Takouti, NEF has worked on a variety of community development and natural resource issues in the zone since the early 1990s. The Nema Tarabé (Well-being of the Tarabé) association emerged from an NEF initiative to protect the vast doum (*Hyphaene thebaica*) forests at the bend of the Tarabé River. The core feature of the Nema Tarabé is an agreement (convention) that brings together the area's ten villages, including Senoré, in an effort to establish a shared set of rules and management principles for a full range of the zone's natural resources. In 2001, NEF started discussing the protection of the area's doum forests with a number of its partner villages. The Tarabé contains one of the most important doum populations in the region, yet it has become highly degraded after years of neglect, drought and unfettered cutting. The group envisioned a protective management plan that: (1) was consistent with new forest legislation, (2) fostered partnerships between villagers, local government officials and state technical services, and (3) articulated with the communal development plan.

The villages constituted an informal association to discuss the preparation of the convention. Each village contributed three representatives to the association, two men and one woman, to represent village interests and priorities and to communicate the proceedings of the association. In addition to the periodic training workshops, the association held monthly meetings to work out the details of the management rules and principles. By the beginning of 2003, it became clear to the village representatives that managing the doum forests separately from other resources was untenable because of the reciprocal relationships among the villages. Numerous arrangements exist between villages whereby access to one resource is tacitly exchanged for access to another. Only eight of the villages have significant doum forests, yet all of the villages depend on doum products. Villages without doum groves obtain access to doum by exchanging access to other resources, such as fisheries or bourgou pasture. Thus, by building relationships across boundaries, the villages successfully obtain a fuller range of livelihood resources than those available within their own territories.

These reciprocal arrangements complicated negotiations for the local convention. Some villages proposed closing access to specific forest zones on their territories, in many cases contravening customary reciprocal rights with their neighbors. Proposals drew tit-for-tat, retaliatory threats. It was in this context that Senoré proposed closing a forest named Ndounkara to all cutting, and establishing it as a purely pastoral zone like Kountou. Three neighboring villages, Senoré, Dari and Takouti, had for years disputed control over Ndounkara, which encompasses disputed boundaries. Dari met Senoré's proposal to close Ndounkara with immediate protest because Dari considered Ndounkara equally—if not exclusively—its domain. Initially, Senoré quashed this objection by threatening to refuse to let an NGO-financed irrigation canal pass through its territory, arguing that it would lose pasture to the rice and that its bourgou plain would suffer from water diversions.

The outcome of these discussions was that the communities themselves broadened the convention to include other resources, particularly gallery forests, fisheries (rivers and ponds), bourgou pastures and agricultural lands (dryland fields and irrigated rice perimeters). They argued that in order for villages without doum forests to buy into the convention, they needed to take into account the interrelation of multiple resources. The association formed a special committee with a coordinator for each resource and

initiated a process to define a common set of rules and principles that encompassed all of the zone's natural resources.

On the basis of this slowly constructed consensus, communities, the commune, and state technical agencies negotiated management systems for forests, fisheries, bourgou pastures, and conflict management. The institutional arrangements that have emerged are built upon customary systems of resource management. They account for the interdependencies of neighboring communities and incorporate dimensions of state natural resource policy. Forest management is based on formal management plans. The Forest Service still oversees the preparation of management plans, but the foresters approach this process as collaborative under the agreement. As a result, ten important doum forests have been closed to all cutting and leaf harvesting for an initial 5-year period. The system maintains the right of the water shaman to control opening and closing dates of collective fisheries, places two key breeding grounds off limits to all fishing, and explicitly bans the *fourrière* technique (a form of seine-net fishing). Flood pastures are zoned for local herding, fee-based grazing, and commercial cutting. Although the new Pastoral Charter assigns communes authority over flood pastures, the association tacitly recognizes the power of village chiefs to control access and revenues on behalf of their communities.

Senoré's participation in the local convention has been somewhat cautious and conflicted. In 2002, anticipating the new powers it would acquire through the local convention, the people of Senoré acted independently to revive a traditional prohibition against cutting male doum palms on their territory. They extended the rule to include all doum palms because of the dwindling population. Villagers agreed to share surveillance responsibilities among themselves but did not organize a formal patrol brigade, as it is possible to hear cutting from the village. A close aide of the chief, one of the village's representatives to Waldé Nema Tarabé, assumed supervisory responsibility. Several outsiders were caught cutting trees and left without incidence after being informed of the ban. The village became discouraged, however, when a woodcutting team came from a distant village with a Forest Service-issued permit to cut 10 doum palms. The villagers protested to the local forestry agent, explaining that they were in the process of formalizing the local convention. The forester informed them that they had no basis on which to refuse the woodcutters access to the trees around their village. As a result, Senoré abandoned its attempt to control cutting, recognizing that outsiders would not respect its authority (although villagers continue to respect the rule).

In 2003, Dari finally refused definitively to allow Senoré to restrict access to Ndounkara. To do so, they feared, would be to recognize Senoré's domain over the forest. Senoré pulled out of Waldé Nema Tarabé in protest. At the same time, another neighbor, Dianguinari, also pulled out because the village chief did not want interference in the management of its flood pasture. A delegation consisting of the mayor, the district forester, the district agricultural officer, NEF and representatives of the association visited each of the villages to convince them to rejoin the association. Ultimately, both Senoré and Dianguinari decided that the convention would give them greater control over their resources. Realizing that closing Ndounkara to use was not possible politically and not wanting to lose the potential benefits of the program entirely, Senoré abandoned its aspirations for greater control over the zone and proposed three large doum groves for integration into the multi-village management plan.

However, Senoré has strongly resisted efforts to integrate Kountou into the convention. They interpret the local convention largely as a process by which they will share jurisdiction over their resources with other signatory communities. And, while they were willing to test these arrangements in a relatively unimportant forest where property rights are already contested, Ndounkara, they are hostile to the idea of giving up any control over a resource as critical to their livelihoods as Kountou. This opposition is due in part to the untested nature of the rural commune, which exercises the authority on which the local convention rests, and in part to the fact its neighbors have been trying to cut down Kountou for the past

several years. The forest provides nesting grounds for granivorous birds that devastate the crops of neighboring Bambara farmers. Several years ago, Bambara farmers from ten neighboring villages organized to demand – first to Senoré and then to the local government – that the forest be cut down completely in order to chase away the birds. The mayor refused to intervene, arguing that he saw no compelling reason to stop the Bambara. The confrontation last several weeks, but the Bambara ultimately relented when the district forestry officer refused to issue a cutting permit. Animosity persists, however, and many Bambara continue to speak of removing the forest.

The preparation of the Tarabé convention has stretched over several years, involving negotiations among the constituent communities and between the communities, local government, and state technical agencies. This process has resulted in a social contract that is considered legitimate by all participants, including local government and the state. The outcome has been an enforceable agreement establishing management rules and principles based on customary institutions and on local social realities and yet compatible with state natural resource policy. The environmental and social outcomes may not become apparent for several years, but the convention itself represents a significant step towards creating a framework for reconciling customary and state natural resource institutions and for building synergy among local communities, elected local government and the state.

DISCUSSION

These three local efforts illustrate some of the challenges to effective local natural resource management posed by the co-existence and interaction of customary institutions and local government. The outcomes of legal pluralism in these cases are simultaneously shaped by the formal linkages between customary and statutory institutions, the social and political factors that animate the interaction of these institutions, and the specific contexts in which these interactions occur.

Institutional parameters. The performance of decentralized natural resource policy, like the authoritarian policy of the centralized state, ultimately depends on the degree to which it can accommodate – or 'fit' – the social and ecological realities of local resource use (Young 2002). Fit is largely a function of legally distribution of powers – what powers are devolved to whom, particularly the power to make and enforce rules. Under Malian legislation, villages have no legal personality and therefore cannot make or enforce rules. Customary institutions such as the Badiari's Beme have no legal basis. Yet to rely on the Forest Service would certainly condemn community forests to degradation because the Forest Service does not have the human or financial resources to enforce its own rules. Both communities and the state are therefore limited to informal arrangements that compromise the ability of either to be effective.

Senoré illustrates the complexity of management issues that emerge from livelihood patterns in rural Mali: (1) natural resource problems involve multiple villages, which often have separate customary legal traditions or competing resource claims; (2) most villages are involved in the management of multiple resources, each requiring potentially different scales of coordination; (3) resource tenure is complicated by overlapping and reciprocal access rights. An issue as basic as mapping territorial boundaries is a potential powder keg.¹⁹ This complexity partially explains the reticence of even reform-minded public officials to transfer powers downward.

The rigid structure and intensely political nature of local government also compromise its capacity to manage resources effectively under complex, site-specific conditions; its capabilities are very different from those of communities in this regard. Thomson explains that in francophone West African countries,

Communes were demarcated by specifying constituent villages, with no reference to territorial boundaries. While the boundaries between village territories are known in some cases, they are more frequently unclear, overlapping, or contested. For this reason, the government has not yet touched the issue of transferring the ownership of domains to communes. The most recent discussions on power transfers to local government have been restricted to managerial powers.

"policies of uniformity limit the extent of devolution to district-level, general-purpose governments," thus denying "authority to their populations to organize at the level at which specific problems occur (2000:3)." In this tradition, Sahelian decentralization imposes "inflexible governance frameworks," allowing only general-purpose government, where the smallest unit – the commune – is larger than that needed to address the majority of natural resource and collective action problems (2000:3). He concludes that limitations on self-governance perpetuate central control, but he explains that:

"The risk, in most parts of Mali is not that these inappropriate sets of rules will bring public business to a halt at the community level. Communities will continue, as before, to deal with their problems in non-formal ways, probably without much regard to the state. The real problem is that the decentralization legislation represents a strong commitment to retaining state control over all forms of collective action in the country. It fails to establish the kind of enabling framework for community initiative and autonomous problem-solving that seems indispensable to encourage low-cost, efficient, reliable efforts by rural populations to address the myriad issues (Thomson 1995:11)."

Political economy. Local social norms can lead to the exclusion of potential resource users from access and decision-making on the basis of identify or residence. Yet it is unclear that elected local government – even when it functions well – offers a convincing pathway for enhancing representation and equity.

The three communities clearly illustrate that local institutions may persist and adapt to changes without being particularly fair or equitable. In Badiari, neither women nor herders are allowed to participate in decision-making, and outside herders are specifically targeted for enforcement. In Douma, the historically marginalized Dogon did not benefit from forest and range management in proportion to the costs they bore. This inequity ultimately led to defection and demise of the initiative. In Senoré, the voice of women was conspicuously absent in the debate over Ndounkara, although they were poised to lose access to their primary source of high-quality doum leaves for mat weaving. Likewise, domination of village debate by the Fulani eclipsed the voices of low-status, sedentary farmers. Restricting access to Ndounkara is not in itself necessarily problematic for the farmers, but it might have resulted opportunity costs by diverting external funding from agricultural activities. This skewed representation of local interests resonates with warnings that customary institutions tend to favor the interests of the traditional elite and that devolution of powers to bodies that are not downwardly accountable risk reinforcing these interests (Ribot 1999). And yet, because social pressure is exerted in many domains of village and household life, it is difficult to imagine what set of simple institutional reforms—including elected local governments—could mediate deeply rooted gender- and ethnicity-based social biases to enhance participation, representation, and accountability in this context.

Politics also compromise the responsiveness of decentralized local government. The experiences of Douma and Senoré illustrate several problematic dimensions of interaction between communities and local government. First, the ability of communities to influence local government depends on their political leverage and the political nature of local government jurisdictions. Because of the political conditions – i.e., a commune with few villages and dominated by a single ethnic group – the Fulani of Douma easily mobilized the communal council and codified their community-based system as communal policy. Yet, in spite of the democratic nature of the communal government, its agenda reflected only the narrow interests of the dominant political group. By contrast, Senoré must compete with sixty other villages for the attention and support of its local government. Even after the initiation of the local convention, the commune has been unwilling to get involved in supporting Senoré's politically charged customary institutions.

Second, powerful actors in Douma –the urban cart owners – were able to use their influence to interrupt the local initiative through legitimate administrative channels. If the cart owners had not challenged

Douma's system, it might have continued to function in a 'covert' manner, perhaps without even becoming an affair of the commune.

Third, the efforts of Douma and its local government were hamstrung by lack of knowledge of administrative procedures and by limitations on their powers over natural resources. In the Tarabé, these constraints were overcome only with the assistance of an NGO. NGOs are frequently the only actors with the enough technical expertise, funding and flexibility to navigate the technical and administrative complexities of state-sponsored natural resource policy.

Finally, the political resolve of the local government to support Douma's initiative could not overcome the effects of internal dynamics and distribution of interests in the community, which ultimately led to its demise. In Senoré, NGO participation in the negotiation of the local convention facilitated solutions to complex natural resource problems involving multiple villages and contentious local tenure arrangements. NGOs can foster inclusive processes and mediate relations among multiple organizational actors with diverse interests and constraints. However, NGOs are ephemeral, and long-term security of local rights must ultimately rest in informed political activism by local communities.

Reconciling legal pluralism. The three communities here have demonstrated a remarkable capacity for organizing self-governing natural resource regimes. Yet in each case, efforts have been at odds with state-sponsored natural resource policy, even after major decentralization reforms. The coexistence and interaction of these separate legal traditions and institutional arenas under decentralization can play out in different ways. All three cases illustrate the potential of formal legal systems to undermine traditional institutions rooted in customary law, though only in Douma did this result in the collapse of the institution. Status quo, "don't ask, don't tell" arrangements (e.g., Badiari and Senoré Kountou) allow traditional institutions to fill the void created by impracticable state resource policy. However, tacit recognition does not establish secure local rights, and local institutions must operate clandestinely under these circumstances, potentially undermining institutional performance. The status quo pathway minimally represents a lost opportunity because it fosters no positive engagement between government and local populations.

The interaction of customary and state institutions can also foster synergy if communities are regarded as a source of innovation and institutional capital. Local conventions have provided a mechanism for negotiating institutional arrangements among different partners – particularly between local communities and local government – within a broader legal framework. With legitimacy and consent derived through participation and negotiation, they establish credible, enforceable commitments among different parties (Brechin *et al.* 2002, Wilshusen *et al.* 2002). This approach allowed communities to overcome seemingly intractable local problems in collaboration with local government.

The Nema Tarabé is an emergent, innovative solution to both the complexities of local tenure relations and to the problematic relations between customary and statutory natural resource policy. It starts with the livelihoods concerns of local resources and with traditional institutions (as problematic as they are). The convention establishes a framework for continued participation in decision-making by a variety of stakeholders. It therefore reduces overall transaction costs and fosters flexibility in order to accommodate the dynamic nature of natural resource use. Moreover, it fosters constructive dialogue between rural populations and local elected officials. Local populations are provided an opportunity to advocate for customary institutions. Government officials are presented an opportunity to increase local buy-in to natural resource legislation and to mediate against inefficiencies, inequities and externalities that might be inherent in purely customary systems. This dialogue is facilitated in part by the formation of a multivillage association, which leverages more bargaining power than villages could mobilize individually. Interest aggregation through this association has enabled the communities to articulate their management priorities and capabilities in a coherent manner to local government. The important role of NEF in

leveraging resources and bargaining power for social groups that otherwise have little voice in governance underscores the importance of engaging different types of civil society organizations. Finally, the convention offers an economy of scope through a management plan that encompasses multiples villages and multiple resources.

The legal basis of local conventions has been debated as long as they have been used as a tool for promoting local participation (see Djiré 2003 for a summary of arguments). Nonetheless, as the Malian sociologist Breima Kassibo has remarked, "from a strictly legal point of view, [local conventions] are not legal; from a practical point of view, they are effective (personal communication, 2004)." However, a draft regulatory order to transfer powers over natural resources, which was circulated for public comment in March 2005, included formal recognition of negotiated local conventions as a principle vehicle for community-based natural resource management. That this option has been discussed among high-level decision-makers is illustrative of the potential for iterative policy development and suggestive of the type of synergy that might exist between statutory and customary law.

SCOPE OF STUDY

While Badiari, Douma, and Senoré represent several recurring challenges to designing and implementing effective decentralization of natural resource governance, there are limits to the conclusions that can be made from detailed community studies. They cannot be generalized to the same extent as large sample studies, but micro-level analysis provides an opportunity to examine the local dynamics driving broader trends. These case studies illustrate how inconsistencies between institutions based in statutory and customary legal orders shape the trajectories of local natural resource management under decentralization and suggest possible approaches for reconciling these inconsistencies.

This caveat holds true for the focus on Mali, which offers a unique set of national-level concerns. Because decentralization is ultimately a national-level policy reform, the appropriate analytical level for comparing approaches to decentralization is the nation-state. Current decentralization processes in Africa "differ by the level of legal reform involved, the scale and number of levels of 'local' government, the kinds of authorities being engaged and developed, the mix of powers and obligations devolved, the sectors involved, the nature of the enabling environment, and the motives of governments for launching these reforms in the first place (Ribot 2001:3)." Mali stands apart even from its West Africa neighbors in terms of both macro-level institutional arrangements and the richness of local experience with commonpool resource management. Unlike many parts of the world, traditional institutions are alive in rural Mali. The scope of inquiry is therefore limited to cases in which some degree of institutional capital exists locally. Barrett *et al.* observe that:

"Community-based methods [of biodiversity conservation] work best if there are strong (formal or informal) local systems of social control to enforce access restriction, while government-run systems fare well in the hands of competent bureaucracy. In much of the tropics, however, weakness of both systems is the norm. Traditional management systems are often overwhelmed, eroded, or non-existent at the community level. Commercial natural resource markets are commonly incomplete and inefficient, and many countries are generally fiscally and politically fragile. Thus, there is no uniformly preferable locus of conservation authority in tropical settings (2001:499)."

However, the overarching message applies regardless of location: it is critical to maintain open, flexible, and adaptive approaches to crafting local institutional arrangements under decentralization. It is precisely because of the great diversity of local circumstances that this must be true.

CONCLUSION

Against the backdrop of decentralized local government and natural resource policy, the community studies of local natural resource use and management underscore the broader point that decentralization is neither quick fix nor panacea. Instead, it establishes a political space in which diverse actors must continually reconcile the ecological and social realities of local natural resource management with the administrative and political structures of government. The superposition of new governance structures on customary institutions frequently produces ambiguous *de facto* relationships between decentralized local government and communities. The core of the policy dilemma here is the relationship between customary legal systems – those emanating from the shared social experience of local communities – and statutory legal systems – those emanating from the authority of the state. The key question is whether the political space allows for statutory and customary legal systems to co-exist or defines them as inherently contradictory.

It is tempting and perhaps necessary to search for the conditions necessary for "good government" – government that is representative, empowered and accountable. It is certainly important to "get the rules right." But this frequently requires ongoing dialogue, negotiation, and conflict management. It is equally important to build social norms, political culture and capacities to engender effective local participation in local government and in the civic arena. But it is difficult to envision how this will happen without flexible governance frameworks that present the possibility of bridging the gap between customary and statutory law. Decentralization is unlikely to be effective where existing social institutions and other cultural factors are dismissed as barriers to decentralized democracy rather than embraced as resources for effective governance.

Solutions to complex natural resource problems, including the challenge of building credible institutions, are about process as much as they are about institutional arrangements. Finding these solutions will require both time and open channels of communication. Aly Bacha Konaté, coordinator of an NGO network working on decentralized natural resource management in the Mopti Region, frames the challenge as follows: "I look at what's going on and I say, 'there are 30,000 villages in Mali; you can't have 30,000 local conventions.' But then, this is the only way it could work (personal communication, 2004)."

BIBLIOGRAPHY

- Agrawal, A. 2003. Sustainable governance of common-pool resources: contexts, methods and politics. *Annual Review of Anthropology* 32:243–62.
- Agrawal, A., and C. C. Gibson. 1999. Enchantment and disenchantment: the role of community in natural resource conservation. *World Development* 27:629-649.
- Agrawal, A., and E. Ostrom. 2001. Collective action, property rights, and decentralization in resource use in India and Nepal. *Politics and Society* 29:485-514.
- Agrawal, A., and J. C. Ribot. 1999. Accountability in decentralization: a framework with South Asian and West African cases. *Journal of Developing Areas* 33:473-502.
- Andersson, K., C. C. Gibson, and F. Lehoucq. 2006. Municipal politics and forest governance: Comparative analysis of decentralization in Bolivia and Guatemala. *World Development* 34:576-595.
- Azfar, O., S. Kähkönen, and P. Meagher. 2001. *Conditions for Effective Decentralized Governance: A Synthesis of Research Findings*. College Park, MD: IRIS, University of Maryland.
- Barrett, C. B., K. Brandon, C. C. Gibson, and H. Gjertsen. 2001. Conserving tropical biodiversity amid weak institutions. *BioScience* 51:497-502.
- Becker, L. C. 2001. Seeing green in Mali's woods: colonial legacy, forest use, and local control. *Annals of the Association of American Geographers* 91:504-526.
- Benda-Beckmann, F. von. 2001. Legal pluralism and social justice in economic and political development. *IDS Bulletin* 32.
- Benda-Beckmann, K. von. 1981. Forum shopping and shopping forums. Journal of Legal Pluralism 19:117-159.
- Benjamin, C. E. 2004. *Livelihoods and Institutional Development in the Malian Sahel: A Political Economy of Decentralized Natural Resource Management*, Ph.D. dissertation, School of Natural Resources & Environment, University of Michigan.
- Benjaminsen, T. A. 1997. Natural resource management, paradigm shifts, and decentralization reform in Mali. *Human Ecology* 25:121-143.
- Blair, H. 2000. Participation and accountability at the periphery: democratic local governance in six countries. *World Development* 28:21-39.
- Brechin, S. R., P. R. Wilshusen, C. L. Fortwangler, and P. C. West. 2002. Beyond the square wheel: toward a more comprehensive understanding of biodiversity conservation as social and political process. *Society and Natural Resources* 15:41-64.
- Burki, S. J., G. E. Perry, and Dillinger, William R. 1999. *Beyond the Center: Decentralizing the State*. Washington, DC: The World Bank.
- Cissé, M., and I. Doumbia. 2002. Etude sur les difficultés d'application de certains textes de gestion des ressources naturelles au niveau du monde rural. Sevaré (Mali): GDRN5.
- Clark, A. F. 2000. "From military dictatorship to democracy: the decentralization process in Mali," in *Democracy and Development in Mali*. Edited by R. J. Bingen, D. Robinson, and J. Staatz, pp. 251-264. East Lansing, MI: Michigan State University Press.
- Crook, R. 2003. Decentralization and poverty reduction in Africa: The politics of local-central relations. *Public Administration and Development* 23:77-88.
- Crook, R., and J. Manor. 1998. *Democracy and Decentralisation in South Asia and West Africa*. Cambridge (UK): Cambridge University Press.
- Diallo, C. O. 2002. Problématique de la gestion décentralisée des produits ligneux dans la forêt de la commune de Baye : étude de cas. Washington, DC and Bamako (Mali): World Resources Institute and Centre Universitaire Mande Bukari.
- Djiré, M. 2003. Les conventions locales, un outil de gestion durable des ressources naturelles? Communication à l'atelier "Comment sécuriser les droits fonciers en milieu rural?" Forum Praia+9, Bamako.
- Edmunds, D., and E. Wollenberg. Editors. 2003. *Local Forest Management: The Impact of Devolution Policies*. London: Earthscan.
- Gibson, C. C., M. A. McKean, and E. Ostrom. 2000. "Explaining deforestation: the role of local institutions," in *People and Forests*. Edited by C. C. Gibson, M. A. McKean, and E. Ostrom, pp. 1-26. Cambridge, MA: MIT Press.
- Grigsby, W. J. 2002. Subsistence and land tenure in the Sahel. Agriculture and Human Values 19:151-164.
- Hesse, C. 2001. "Gestion des parcours : qui en est reponsible et qui y a droit ?" in *Elevage et gestion de parcours au Sahel, implications pout le développement*. Edited by E. Tielkes, E. Schlecht, and P. Hiernaux, pp. 139-153. Stuttgart (Germany): Verlag.

- IFRI. 2001. *IFRI Field Manual [Version 10.0]*. Bloomington, IN: International Forest Resources and Institutions Program, University of Indiana.
- Johnson, C. A. 2001. Local democracy, democratic decentralisation and rural development: theories, challenges and options for policy. *Development Policy Review* 19:521-532.
- Kerkhof, P. 2000. Local Forest Management in the Sahel. London (UK): SOS Sahel.
- Krishna, A. 2003. Partnerships between local governments and community-based organizations: Exploring the scope for synergy. *Public Administration and Development* 23:361-371.
- Larson, A. M. 2002. Natural resources and decentralization in Nicaragua: are local governments up to the job? *World Development* 30:17-31.
- Lavigne Delville, P. 2002. "Les politiques foncières contemporaines : bréve comparaison des approches du Mali et de Madagascar." *Paper presented at the European Forum on Rural Development Cooperation (4-6 September 2002), Montpellier (France), 2002.*
- Lavigne Delville, P., C. Toulmin, J. P. Colin, and J. P. Chauveau. 2001. Securing Secondary Rights to Land in West Africa. London (UK): IIED.
- Litvack, J., J. Ahmed, and R. Bird. 1998. *Rethinking Decentralization in Developing Countries*. Washington, DC: The World Bank.
- Manor, J. 1999. The Political Economy of Democratic Decentralization. Washington, DC: World Bank.
- Meinzen-Dick, R. S., and R. Pradhan. 2002. *Legal Pluralism and Dynamic Property Rights*. CAPRi Working Paper no. 22. Washington, D.C.: International Food Policy Research Institute.
- Merry, S. E. 1988. Legal pluralism. Law and Society Review 22:869-896.
- Moore, S. F. 1973. Law and social change: The semi-autonomous social field as an appropriate subject of study. *Law and Society Review* 70:719-746.
- —. 2001. Certainties undone: fifty turbulent years of legal anthropology, 1949-1999. *The Journal of the Royal Anthropological Institute* 7 (1):95-116.
- Ouedraogo, H.M.G. 2003. Decentralisation and local governance: Experiences from francophone West Africa. *Public Administration and Development* 23:97-103.
- Onibon, A., B. Dabiré, and L. Ferroukhi. 1999. Local practice and decentralization and devolution of natural resources management in West Africa: stakes, challenges and prospects. *Unasylva* 50:23-27.
- Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.
- —. 1999. Coping with the Tragedy of the Commons. *Annual Review of Political Science* 2:493-535.
- Ostrom, E., and M. B. Wertime. 2000. "International Forestry Resources and Institutions research strategy," in *People and Forests: Communities, Institutions, and Governance*. Edited by C. C. Gibson, M. A. McKean, and E. Ostrom, pp. 243-268. Cambridge, MA: MIT Press.
- Painter, T., J. Sumberg, and T. Price. 1994. Your *terroir* and my action space: Implications of differentiation, mobility and diversification for the *approche terroir* in Sahelian West Africa. *Africa* 64:447-464.
- Peluso, N. L. 1992. *Rich Forests, Poor People: Resource Control and Resistance in Java*. Berkeley: University of California Press.
- Pierce Colfer, C. J., and D. Capistrano. 2005. *The Politics of Decentralization: Forests, Power, and People*. London: Earthscan.
- Poteete, A., and E. Ostrom. in press. "An institutional approach to the study of forest resources," in *Human Impacts on Tropical Forest Biodiversity and Genetic Resources*. Edited by J. Poulson. New York: CABI Publishing.
- Rawson, D. 2000. "Dimensions of decentralization in Mali," in *Democracy and Development in Mali*. Edited by R. J. Bingen, D. Robinson, and J. Staatz, pp. 265-287. East Lansing, MI: Michigan State University Press.
- Ribot, J. C. 1999. Decentralization, participation and accountability in Sahelian forestry: Legal instruments of political-administrative control. *Africa* 69:23-65.
- —. 2001. Local Actors, Powers and Accountability in African Decentralizations: A Review of Issues. Ottawa (Canada): International Development Research Centre.
- —. 2002. Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation. Washington, DC: World Resources Institute.
- —. 2004. Waiting for Democracy: The Politics of Choice in Natural Resource Decentralization. Washington, DC: World Resources Institute.
- Ribot, J. C., and A. M. Larson. Editors. 2004. *Democratic Decentralisation through a Natural Resource Lens*. London: Routledge.

- Ribot, J. C., and R. P. Oyono. 2005. "The politics of decentralization," in *Towards a New Map of Africa*. Edited by B. Wisner, C. Toulmin, and R. Chitiga, pp. 215-228. London: Earthscan.
- Scott, J. C. 1987. Weapons of the Weak: Everyday Forms of Peasant Resistance. New Haven: Yale University Press.
 —. 1998. Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed. New Haven, CT: Yale University Press.
- Seely, J. 2001. A political analysis of decentralization: Co-opting the Touareg threat in Mali. *Journal of Modern African Studies* 39:499-524.
- Smith, Z. K. 2001. Mali's decade of democracy. Journal of Democracy 12:73-79.
- Smoke, P. 2003. Decentralisation in Africa: Goals, dimensions, myths and challenges. *Public Administration and Development* 23:7-16.
- Stamm, V. 2002. New Trends in West African Land Legislation? The Examples of Cote d'Ivoire and Mali. Paper presented at the international workshop, "Landrights and the politics of belonging in West Africa" (3-5 October 2002). Frankfurt (Germany): University of Frankfurt.
- Thomson, J. T. 1995. "Mali: The enabling framework for user-based governance of forest resources," in *Fifth Conference of the International Association for the Study of Common Property (24-28 May 1995)*. Bodoe, Norway.
- —. 2000. "Special Districts: An Institutional Tool for Improved Common Pool Resource Management." *Paper presented at the Eighth Conference of the International Association for the Study of Common Property, Bloomington, Indiana (May 31- June 4, 2000).*
- Toulmin, C., and J. Quan. 2000. Editors. *Evolving Land Rights, Policy and Tenure in Africa*. London: DfID & IIED. USAID. 2002. *Nature, Wealth, and Power: Emerging Best Practice for Revitalizing Rural Africa*. Washington, D.C.: USAID/AFR/SD.
- Wilshusen, P. R. 2003. "Exploring the political contours of conservation: a conceptual view of power in practice," in *Contested Nature*. Edited by S. R. Brechin, P. R. Wilshusen, C. L. Fortwangler, and P. C. West. Albany, NY: SUNY Press.
- Wilshusen, P. R., S. R. Brechin, C. L. Fortwangler, and P. C. West. 2002. Reinventing the square wheel: critique of a resurgent "protect paradigm" in international biodiversity conservation. *Society and Natural Resources* 15:17-40.
- Winter, M. 2000. Natural Resource Management Policy in Mali: The Process of Design and the Options for the GDRN5 Network. Mopti (Mali): GDRN5 Network, SOS Sahel GB, NEF, IIED.
- Wollenburg, E., J. Anderson, and C. Lopez. 2005. *Though All Things Differ: Pluralism as a Basis for Cooperation in Forests*. Bogor, Indonesia: CIFOR.
- Wunsch, J. S. 2003. Decentralization, local governance and 'recentralization' in Africa. *Public Administration and Development* 21:277-288.
- Wunsch, J. S., and D. Olowu. 1995. "The Failure of the Centralized African State," in *The Failure of the Centralized State*. Edited by J. S. Wunsch and D. Olowu, pp. 1-22. San Francisco, CA: Institute for Contemporary Studies.
- Young, O. R. 2002. The Institutional Dimensions of Environmental Change: Fit, Interplay, and Scale. Cambridge, MA: MIT Press.