

The Role of the State Versus the Community in Governance and Management of Renewable Natural Resources:

An Argument and Sahelian Examples

James T. Thomson, Senior and Managing Associate, Associates in Rural Development, Inc. Burlington,

Role of the State Versus the Community

A. Introduction

This essay tries to answer the question about the roles that the State, i.e., *the national government*,¹ should play in renewable natural resources governance and management (RNRGM). The essay draws primarily on situations in Francophone African countries. In order to address this issue, I assume it is necessary first to consider the nature of RNRGM problems, and the roles that local communities may play in solving them.

The paper presents this discussion in three major sections after this introduction. The first section describes the *statist political theory, or paradigm, and institutional design for RNRGM* which occurs perhaps in most striking form in French-tradition countries, but is also present in English- and Portuguese-tradition countries. This paradigm reserves to the national government a predominant role in resources management as far as woodstocks, soil and watershed management, pastures, fisheries and wildlife are concerned (Bloch: 113-14).

The second section presents main elements of a *competing paradigm, or political theory for RNRGM*. It lays out the logic for a major role for

¹ In this essay I use the term "national government" as the functional equivalent of what others refer to as "the State". The justification for this choice of terminology lies in my rejection of the *State-Civil Society dichotomy*. If one accepts that dichotomy, it seems to me one risks assuming away both the possibility of *multiple governments within a single polity*, and the *problematic aspects of governmental institutions*. As explained in the body of the paper, I find it far more productive to begin with specific problems and think about institutions in light of whether they are or are not useful in resolving a specific type of problem.

communities in designing and operating their own institutional arrangements for RNRGM. A point which distinguishes this "polycentric" (multiple-centered) paradigm (V. Ostrom 1991: 223-43, esp. 225-28) from the single-centered statist one lies in the assumption that institutional analysis should begin with a problem, not with an assumption that the national government or any other form or level of government ought necessarily to play a role in resources management. Appropriate RNRGM institutional arrangements are conceived here to be a function of the nature of the particular problem posed in a specific time and place context.

The third and final section argues for a *restricted role of the national government in RNRGM systems* where communities' institutions - because of the nature of many RNRGM problems - tend to offer the most efficient and equitable way to develop and maintain sustainable solutions to those problems.

B. Statist Theory and Institutional Design for Resource Governance and Management: The French Tradition

In this political tradition, the architecture of the national government as an imperial organization is politically derived. The ultimate goal of single-center national governments has been to ensure central government control of all parts of the national jurisdiction.

1. Design Desiderata of the Ideal (Providential) State in Post-Colonial Countries

The class of political architects who designed the institutions of contemporary West African countries included both colonial officials and politicians of colonial countries just prior to the independence era - which began generally in 1960. Political scientists also played a key role in developing the concept of "nation-building". Five basic elements, or design desiderata, were found in the political designs of most French-tradition African countries at independence.² Often these constitutions were "tightened up" shortly after independence by the civilian and then military personnel who took control of the new

² For a similar list of desiderata generalized to all Africa, see Wunsch 1990: 45.

governments. This was done in order to reinforce the capacity of national government elites to control populations in their own countries.

Single-centered. The national government was to function as the command center. To ensure effective coordination of activities across a wide array of sectors, it was assumed, the national government had to be the source of all commands.

Unifying force. The national government would have to dispose of sufficient force to unify in a single polity the diverse ethnic groups that constituted its population.

Guarantee national borders. Because the colonial empires had been organized generally along "divide and rule" lines, national borders as well as internal jurisdictions quite frequently divided the same ethnic group between two different countries. The Somalis, the Hausa, the Ewe, the Twareg, the Yoruba, the Halpoular and Fulbe are but a few examples of peoples divided by national boundaries. To stifle irredentist claims on the part of the larger group, African leaders within the Organization of African Unity quickly agreed that national borders must remain sacrosanct.

Impose development. The colonial experience was thought to have demonstrated, by and large, that colonial peoples (a) were "underdeveloped" and (b) should be "developed" for their own good, whether the latter considered development-induced changes as goods or as bads. Pre-colonial political systems were considered impediments to development plans. The independent national governments would thus continue the work of the colonial empires in replacing pre-colonial institutions with ones modeled on those of developed countries, primarily France, England and Portugal.

Mold new citizens. To overcome ethnic divisions new national government elites were expected to use their powers to cement the loyalty of their populations to the new national governments, in the process creating citizens of the new nations who would function in a unified manner to achieve "development".

2. Assumptions Underlying These Desiderata

Analysis of these design desiderata reveals six key assumptions underlying them.

"Forced-march" political and economic development would be feasible. Planning and political coercion were thought to offer the most promising route to rapid development. Planners would conceive of the most efficient way to achieve desired goals on the road to development and would coordinate development actions to ensure coherent results. Those who might not willingly accept the roles assigned them by national government elites would nonetheless be compelled to perform in ways advancing the "interests of the nation."

Governors should be recruited only from the elite class within society. At every major cut in French-tradition school systems, nine-tenths of exam takers are failed. Survivors received diplomas, which to a great extent determined their placement, whether as administrators or technicians, within the national government system.

Elites could approach omniscience. Properly selected and trained elites could approach a state of omniscience which would allow them to make appropriate policy decisions about the most detailed matters in areas that are elsewhere, including France, considered to be purely private sector or personal questions.

Elites would be disinterested. Proper training in a carefully organized, nationally-controlled educational system would produce "good men" committed to developing the nation state for the good of all. They would use their powers to advance the "public interest" as elites conceived it. By assumption, elites would define the "public interest" correctly.

Controls on elite behavior were unnecessary. Since elites were assumed to be "good men" facing serious development problems, subjecting their decisions to review by non-elites (or even competing elites) would be counterproductive because it would impede their ability to

take quick action in solving development problems and resolving conflicts.

Ethnic conflict constituted a mortal danger. Especially in light of Cold War politics, ethnic conflicts appeared to offer a perfect entry point for outside, destabilizing forces. To guard against that danger, ethnicity must be overcome or suppressed if necessary.

3. Implications of Statist Theory for Design of Institutions Governing Renewable Natural Resources

Application of these desiderata and assumptions to the task of designing NRNGM institutions amounted in most cases to a continuation and intensification of efforts put in place during the colonial era.

The point of departure was the assumption that all renewable natural resources (RNR) - land, trees, pastures, water, fish, wildlife, watersheds - should be legally defined as included in national-level common pool resources. Land was nationalized. National government elites passed formal rules controlling access to and use of woodstocks, pastures, surface and ground waters, fisheries and game. Frequently these rules were exact or nearly exact copies of colonial legislation. The forestry codes of many francophone-tradition African countries illustrate the point (Elbow and Rochegeude: 1-2).

An apparently logical consequence derived from these codes was that national government agents should regulate access to and use of RNR. National agencies such as forestry services arranged training for and hired new employees, described as "technicians". As far as most foresters were concerned, the bulk of their work efforts went into enforcing various "field versions" of the national government code.

4. Implications for Community Role

Within the terms of this RNRGM system, behavior of resource users who depended on the country's RNR for daily survival was to be ordered by national government elites within a national government-community command and control relationship. Locals were to respect prohibitions imposed on RNR use by national agency resource

managers, typically foresters. Such prohibitions included exclusion from national forests, suppression of bush fires, avoidance of protected species, time and place restrictions on harvesting wood, etc. RNR users were expected to execute commands of these same officials, for instance ceding land to the national government (very frequently without compensation) for reforestation purposes, vacating river bottomlands flooded when dams were created, etc. Many had to accept soil erosion measures installed on their fields without consultation or permission (Marchal: 1979).³

Participation within this general approach to RNRGM came to be defined as users' compliance, whether willing or not, with technicians' commands. Users were conceived as having little or no knowledge of resource behavior under different land and RNR use approaches. They were assumed to be motivated only by the shortest of short-term incentives, and guilty of innumerable destructive practices in most areas of RNR use. Bush fires, alleged over-grazing, non-contoured cultivation and the like were all cited as examples of farmer and herder misuse of resources. These charges were not entirely groundless, but neither did they reflect much understanding of the meteorological and economic constraints under which resource users labored.

These elitist misconceptions and unrealistic assumptions led to a gargantuan waste of local time and place knowledge (E. Ostrom, Schroeder and Wynne: 49-55), and of local governance and management potential (E. Ostrom 1993). Local people have, over centuries of experience with changing ecological conditions, worked out deliberate strategies for conservative, sustainable use of renewable

³In Niger, several donors have organized soil erosion control projects, notably the Fonds Européen de Développement in the Badeguichiri region south of Tahoua, and Italian foreign assistance throughout Keita Arrondissement. Some of these projects - but by no means all - initially had the desired effect of slowing soil erosion. But maintenance often posed an enormous problem for peasant farmers working with hand tools and limited labor supplies. Better results were achieved by other development operations, often in the same regions, when after consultation and collaborative demonstrations NGOs such as OXFAM and Catholic Churches introduced techniques local people could master while relying almost entirely on local materials (Thomson: 1980).

resources *when that was necessary*.⁴ They were progressively stripped of their capacity to implement those strategies and continue to modify them in light of new knowledge and evolving conditions. As they were increasingly compelled to function within ill-adapted or frankly inappropriate rule systems for RNRGM, many users in desperation adopted destructive use practices.

5. Sources of Failure of This Institutional Design

This top-down system of resource management, imposed on local communities by national government agents, contained the seeds of its own destruction. Four elements stand out in this regard: (1) technicians' lack of knowledge about the resource systems they attempted to manage; (2) lack of supervisory and control capacity within the national bureaucracy; (3) no lack of temptation for technicians to abuse their official powers both for private gain and to achieve agency goals; and (4) lack of recourse for citizens forced to bear the consequences of technicians' inappropriate technical decisions and abuse of powers. These points are developed below.

Lack of appropriate technical knowledge characterized the approaches of formal RNR management agencies such as Forest Services, Livestock Agencies, Public Works units, etc. Initially this merely reflected the general lack of interest that prevailed in the formal training institutions of ex-French colonies concerning local tree, bush and grass species and a striking lack of professional knowledge about local people's RNRGM strategies.

Some colonial foresters had concluded, in light of their post-World War II experiences, that local species in arid areas such as the western Sahel would never efficiently produce firewood and building materials. They sought alternatives in exogenous species such as *Eucalyptus spp.* Most of those foresters, as well as most of the next generation, failed to understand that trees and bushes played critical roles in local, integrated agro-silvo-pastoral production systems. They committed an error analogous to that of which many livestock

⁴That is, when demand exceeded supply, a situation that rarely existed in pre-colonial and colonial Africa, many parts of which including the Sahel - were distinctly underpopulated (Ware: 179).

specialists were guilty. The latter viewed arid area pastoral peoples as ranchers when those same groups saw themselves as dairy farmers.

These "elite" technicians (often having benefitted from only the most limited technical training) arrived at their field posts in Sahelian rural areas convinced both of their own knowledge and of the destructiveness of most local RNRGM practices. These same technicians faced a profound lack of incentives to obtain better knowledge of local RNR management strategies, and this for three reasons. First, they accepted the national government-based resource management paradigm and failed to recognize that local people did have institutions for RNRGM. Second, most had little access to new information. Third, they did not depend in any way on RNR users, and so had little reason to take their concerns into account. Any vision of effective technical solutions was conspicuous by its absence.

Lack of supervision of field level agents by their superiors worsened if anything after the end of the colonial era. Such agents were never numerous, and the agencies for which they worked soon paradoxically suffered, like most government agencies, from swollen personnel budgets and ridiculously inadequate operating budgets (OECD: 71). Even assuming superiors wanted to exercise close control over the activities of their field agents, they lack both the manpower and the means (the famous *manque de moyens* that, by 1989, had achieved the character of all-purpose excuse for any failing on the part of government programs). Under these circumstances, technical agents soon realized they could often function as autonomous operators, and that they incarnated national government power.

No lack of temptation for agents to abuse powers in applying resource regulation rules was the nearly inevitable consequence, given their trained-in disdain for local practices, their general freedom from effective supervision, and their accurate sense that their positions as national government civil servants vested in them the power to make their word law. Rapidly, agents realized they could extract bribes from resource users desperate for access to resources they needed, or caught in open violation of national government RNRGM rules (Thomson 1977: 64-71; Campbell: 9-13; Vedeld: 134).

Lack of recourse for users of RNR against agents' abuses of power was the final element leading to break-down of national government-based RNRGM management systems, at least as effective institutions for promoting sustained-yield use of RNR. RNR users had the status of national government subjects rather than citizens. They realized they had almost no chance of besting agents in disputes. Costs of recourse were very high, likelihood of success very limited, and personal risks, if the challenge failed, great. Most adapted themselves to the constraints of the system, bribed when they thought it expedient, and participated in RNR destruction as the best strategy open to them to ensure their own short-term survival. This rule-induced behavior illustrates the high cost of inappropriate institutional designs when translated into practice at the field level.

C. The Polycentric Paradigm: Logic of an Alternative Role for Communities in RNRGM

1. Starting Point for Institutional Analysis and Design of RNRGM Systems

The polycentric paradigm offers an alternative to the governance and management of RNR based exclusively on national government-centered institutions. Instead of beginning with assumptions justifying exclusive national government authority, responsibility and action in RNRGM activities (or for that matter, exclusive community authority), this approach starts with the resource and any problems raised by its use or conservation. It takes as *problematic* the issue of who should have responsibility for RNRGM in any given case, and then provides criteria for deciding how responsibility should be allocated. Some preliminary observations are necessary, however, before this approach can be examined in detail.

2. Character of RNR in Typical Developing Countries

Two aspects of RNR strongly affect the feasibility of governance and management efforts: significant variation in type and scale of "local" ecological systems; and commonly, existence of strong spill-over effects, or externalities, among local ecological systems.

Multiple local ecologies of widely disparate sizes

Renewable natural resources typically occur in the context of a *variety of local ecological units*. These units often combine many of the same elements in different ways. Relatively small differences in rainfall, terrain characteristics such as slope, soil quality, vegetation species mix, and use patterns can produce quite divergent outcomes.

Superimposed on these natural factors are the impacts of *various human production systems*. Agriculture involves a broad range of cultivation techniques (e.g., hoe culture, animal traction plowing, low/no till, inter-cropping, fallowing, slash and burn), now more frequently supplemented by soil and water erosion control strategies, fire regimes, availability of chemical, natural and green manure inputs or lack thereof.

Stockraising generally concerns four major animal species (cattle, camels, sheep and goats - donkeys and horses play a minor role) with different grazing and browsing habits, potential for over-grazing and -browsing, and techniques for pasture reconstitution (fire regimes, replanting perennials, etc.).

Forestry and farm forestry add another whole range of variables to the potential range of impacts of human production systems, including reducing wind and water erosion, heightening water infiltration and storage capacity, potentially increasing crop exposure to pest and predator damage, etc.

Humans draw on these various natural and artificial elements in developing, modifying and maintaining their production systems. In doing so they generate different sorts of problems, crucial elements may vary quite dramatically from place to place. Such variance may occur in communities located so close to one another as to be neighboring jurisdictions.

The *scale of problems* involved in resource systems also varies dramatically. To illustrate, the problems raised by appropriate management of a half hectare of garden or millet land are often amenable to solution by individual or family action. Management and governance of such small land units can often be left to the private

initiative of owners or users (but not always; cf. Djibo et al., Chapt VI). By contrast, a forest encompassing a hundred or more hectares may well exceed the capacity of few individuals to govern and manage properly.

To capture the opportunities possible through appropriate RNRGM, collective action may be indispensable. If all members of a community use the forest, or if members of several communities share it, some level of collective action will be necessary to coordinate use, ensure sustainability and perhaps provide for gradually increasing productivity. Neither the scale of these two problems - small garden or field versus large forest, nor the institutional arrangements appropriate for their resolution, are the same (Thomson 1991: 7-25).

Resource systems often involve strong spill-over effects

Scale arguments are reinforced by the interlocking character of many RNR systems. The natural and artificial elements within an ecological unit mutually affect each other. Natural and human activity within a unit often generates externalities for adjacent units, sometimes - as when watersheds become severely eroded - for distant, downstream units. Coping effectively and reliably with externalities - the real and potential negative and positive impacts of spill-overs - typically involves some degree of collective action. But, as noted, the scale of action may vary.

3. How Ought Users to Cope with Resource Problems?

The above discussion suggests that most RNRGM problems are created in some local context. Problematic consequences arise from two general causes: locally-generated demand in response to local subsistence and social reproduction needs; and non-local demands, often mediated by market relationships, but sometimes induced by the nature of different production systems. As an example of the latter situation, the passage of transhumant herders through a local area often involves conflictual as well as complementary, cooperative relationships. Obviously drought, downstream and downwind consequences of land and resource abuse, damming rivers, and some industrial activities can also generate negative consequences for distant ecological niches.

While not all RNRGM problems are local, a great many are. This has strong implications for the structuring and use of political power to address such problems. Institutional arrangements, it is argued here, should create incentives for those closest to RNRGM problems to address them first. The next sub-section lays out an empirical justification for this approach.

4. Problem Creates Public

John Dewey, the 20th-century American philosopher of pragmatism, argued that an understanding of public affairs, the nature of the national government, and the role of different possible levels, or scales, of collective action in solving problems was best approached by starting with *the problem* (Dewey). He reasoned as follows: when a human activity generates (often unintended) externalities for individuals not directly involved in that activity, those spill-over consequences create an *inchoate (unorganized) public*. To illustrate, a farmer high up on a watershed clears land of all trees, brush and grasses, and adopts cultivation practices, e.g., plowing land perpendicular to the contour, that increase run-off and soil erosion on downhill fields.

Those affected - the users and owners of the downhill lands - now share a joint interest in abating the erosion problem. They must decide whether the problem is serious enough to warrant developing institutional arrangements that will vest in them authority to place some limits on the behavior of upstream farmers. The latter might, for example, be required to leave tree lines on the contour when clearing land; to install water and soil erosion control devices (grassed bunds, half-moon or V water retention devices, overflow evacuation ditches, tied ridges, etc.); and either adopt low till/no till farming practices or cultivate on the contour.

If the downhill farmers decide the problem is serious enough, they will try to take collective action to remedy it, perhaps in the manner outlined above. *The interesting question at this point is whether they will find it worthwhile to take such action*, that is, to exercise initiative at the local level to deal with an apparent problem. In other words, will they

be better off if they act and remedy the problem, or fail to act and live with the consequences of the problem? The answer to this query is not obvious without more detail about the kinds of political structures, or institutional arrangements, within which the farmers live.

In order to judge whether action would be justifiable, the farmers must first decide whether they can or cannot live with the negative spillovers of inappropriate upstream cultivation practices. If they decide the erosion is serious enough that they should try to do something about it, then they must answer another question: how difficult will it be for them to take the required collective action, obtain the decisions, or rulings, and have them enforced so that the upstream farmer(s) change their behavior in a positive manner? As costs to local people rise, the likelihood of local problem-solving initiative recedes. If farmers judge costs are too high, then they are unlikely to act.

Several factors need to be taken into account in evaluating costs. *The attributes of the goods and services* in question - whether they are such that collective action is required to deal with them - are clearly crucial. In the watershed example, by assumption, collective action is required because those sharing the watershed are dealing with a *common pool resource*. (Oakerson 1992: 41-42). This means that it is difficult to exclude from access those who farm lands within the watershed, yet each user makes separable use of the water and soil that form the basis of crop production on his lands.

The characteristics of the community involved also affect cost calculations. If the community (or communities) has a tradition of collective action in the RNRGM sector, it may be relatively easy to organize people to agree on an appropriate decision. However, if the community has a history of unresolved conflict, capacity to make and enforce collective decisions may be problematic. Factors affecting capacity for collective action include homogeneity or heterogeneity in ethnicity, language, class and caste, etc.

Finally, *the attributes of rule systems* influence the costs of collective action. In part these costs are a function of local rules and institutional arrangements. In part they are a function of the rules and institutional

arrangements put in place by overlapping regimes, including the national government. We focus attention here on the last category, rules and institutional arrangements of overlapping regimes. It is important to bear in mind, however, that the nature of RNR goods and services vary, as do the attributes of communities. This has powerful implications for the character of appropriate institutional arrangements at several levels, including the national government level.

5. People's Authority to Organize

The argument to this point implies that the *members of the inchoate public*, created by erosion-causing agricultural practices uphill from the affected farmers, should have the authority to organize themselves to deal with the problem, assuming they consider the expected benefits of resolving the problem will outweigh the costs.

In this example, steps in a hypothetical process of organization might include the following. Those farmers suffering most from the ravages of hydraulic erosion, and most concerned, would take the initiative in mobilizing public opinion. If they thought enough others shared their concern with the threat of soil erosion provoked by inappropriate uphill agricultural practices, they might convoke a general assembly of community members to debate desirability of taking action. If the assembly judged that collective action seemed appropriate members would consider how to address the problem, e.g., whether the community should, and could, create rules restricting the liberty of uphill farmers to cultivate land as they see fit.

Offending farmers' liberty would be restricted if the community imposed duties on them requiring special measures in both land clearing and cultivation on plots where the slope exceeds a certain percent grade. Several related issues would have to be addressed as well. How long would farmers not currently in compliance be allowed before they had to complete appropriate measures? Would they be entirely responsible for "financing" those activities or should the community to some extent subsidize soil and water conservation measures. If so, to whom should subsidies be made available? Labor-poor, childless or aged families? Those farming especially steep slopes?

Families lacking the necessary animal traction power? The rich and powerful? Everyone?

Once such rules were approved and publicized, provision would have to be made to monitor efforts at compliance on existing fields, and on new fields as they were created. In the event local regulations were violated, someone would have to be authorized to sanction infractions. Someone would have to decide not only whether to have different sanctions for different acts, but whether sanctions for the same acts should vary depending on whether they were committed by first-time violators or recidivists. In the event of disputes about the penalties, or the character of the rules, provision would have to be made for dispute resolution procedures and back-up enforcement mechanisms.

But this entire discussion may be moot if downhill farmers, live in communities separate from those inhabited by the uphill, offending farmers, and so lack legal standing to compel residents of other communities to mend their ways. This raises the issue of whether citizens have the capacity to constitute new jurisdictions to address problems where spill-overs generated in one community affect residents of another.

6. People's Authority to Create New Jurisdictions

It is argued here that communities should also have authority to decide on the appropriate size of jurisdictions for resource governance and management, and to create such jurisdictions at their own initiative (Coulibaly and Thomson 1993). Citizen initiative in this regard might be limited by the terms of relevant enabling legislation. The relevance of such citizen authority to encouraging citizen initiative can be illustrated by somewhat modifying our soil erosion control example. Assume that farmers in one or two communities at the top of a watershed adopt soil-eroding agricultural practices. Five downslope communities, suffering from the predictable consequences, try to interest offending uphill farmers in changing their ways. Some of the latter agree to adopt more appropriate practices, and some actually do. Others continue as before.

Residents of the downhill communities, which constitute an *inchoate public*, must now decide whether they should try collective action to compel their uphill neighbors to modify their practices. If they enjoy authority as citizens to initiate constitutive processes to create new jurisdictions, they might - depending on the nature of the rules governing constitution of new jurisdictions - propose and win support for the establishment within the watershed of a new *special district* or *single purpose* jurisdiction. The purpose of this special district would be to manage surface water flows within the seven-community watershed. The goal would be to reduce hydraulic erosion of soil resources.

To achieve this goal, the new jurisdiction would have to be authorized to exercise the standard range of powers which any working government must have:

- capacity to make, modify and suppress rules within its domain and scope of authority;
- capacity to monitor compliance with its rules and to sanction violations;
- capacity to resolve disputes, with procedures for appealing contested decisions to other dispute resolution fora; and,
- capacity to mobilize the resources in material, labor and money necessary to carry out these activities.

Using these powers the new local special purpose district could take action to deal with the problem of soil erosion abatement.

We have just explored a hypothetically appropriate process, supported through enabling legislation, by which an *inchoate public* might organize to address a local problem. As in the example, this would often include constituting a new special purpose district. Yet if we turn now to the reality of the situation in most developing countries, and certainly in Sahelian countries, we find a startling circumstance. The hypothetical process described above in fact occurs

in many places. People actually do try to govern and manage fisheries, woodstocks, pastures, watersheds, wildlife (Djibo et al., *passim*; E. Ostrom 1990: 58-102; Bromley).

But *these citizen initiatives* by resource users to discipline themselves to prevent overexploitation of resources, to provide for resource regeneration, to monitor compliance with RNRGM rules and sanction instances of non-compliance, to resolve related disputes, and to tax themselves in materials, money and labor to achieve these ends *often find little or no support from overlapping levels of government*. Furthermore, a political theory or paradigm based on polycentric institutions that would authorize overlapping governments to support such instances of local initiative is generally conspicuous by its absence. This leads us, by a circuitous route, to the problem posed by the *role of the state*. We now have some observations and some tools to provide answers. In sum, as the next section argues, the role of the national government in resources management should be very considerably reduced.

D. Appropriate National Government Role: Mainly a Passive Referee

From this alternative paradigm of polycentric, community-based RNRGM can be derived a fairly clear, circumscribed role for the national government. The logic of the institutional design derived for local and supra-local jurisdictions reduces the role of the national government mainly to that of a creator of incentives for local initiative in RNRGM. In this sense, "...institutional analysis shifts the focus of investigation away from specific policy prescriptions to the underlying authority structures that shape the choice-set for key decision-makers and actors" (Oakerson 1993). Five activities are considered here to be appropriate areas for national government action; two others are considered inappropriate areas for national government intervention.

The national government has a role to play in the following areas:

a. *enabling legislation* - establishment, via enabling legislation, of the constitutional framework(s) that will encourage communities to govern and manage resources by reducing costs of organizing for collective action concerning RNRGM;

b. *back-up dispute resolution and enforcement arrangements* - provision of rapid, equitable, objective and low-cost dispute resolution services when parties request assistance because they cannot otherwise resolve their differences, and of outside support if local enforcement mechanisms fail;

c. *information dissemination* - dissemination of information about technical and institutional innovations and options which may assist resource users to conserve particular resources or increase their productivity on a sustainable basis;

d. *co-financing of local RNRGM initiatives* - possible provision of small amounts of co-financing in support of local-level RNRGM initiatives, once resource users have decided such activities are appropriate; and

e. *biodiversity conservation* - a back-up role in governing and managing migratory wildlife and biodiversity (endangered species) for sustainable use, when local communities cannot (or will not) achieve this goal.

It is submitted that, in at least two other areas, national governments should play virtually no role:

f. no direct responsibility for "establishing and enforcing the rules" of the RNRGM game except in cases where the national government is directly implicated, e.g., biodiversity conservation;

g. no responsibility for planning RNRGM activities at a regional or national level, excepting again only the area of biodiversity conservation.

Each of these point will be commented on briefly below.

1. Enabling Legislation

The national government can play a fundamental role in supporting local initiatives to govern and manage RNR by creating enabling legislation that allows local communities seeking legal recognition for their RNRGM efforts to achieve it at very low cost. This is one clear

and cheap measure by which national governments can encourage local initiatives.

Enabling legislation should create certain facilities, require compliance with a few regulations, and avoid involvement in some areas. It should authorize communities which obtain official recognition to:

- create their own constitutions indicating who is a member of the jurisdiction, what its officials are and their mandates, how they are selected and controlled, and specifying the geographic domain and sectoral scope of the jurisdiction;

- make, change and eliminate *binding* operational rules governing access to and use of resources under management (i.e., compliance with such rules is *not* voluntary, and rules apply to outsiders as well as to residents of the jurisdiction);

- monitor and enforce those regulations using local means and methods;

- settle conflicts in a local dispute resolution forum or fora, providing appeals are permitted to some other body for those dissatisfied with local rulings; and

- mobilize resources (labor, materials and money), again on the basis of non-voluntary assessments if members approve, to carry out the above activities.

Enabling legislation should:

- establish some basic constitutional rules for recognizing existing RNRGM jurisdictions and constituting new ones, e.g., some form of extraordinary majority rule (such as >60% or >75%); *such rules might well vary depending on the type of RNR under management*; examples of such rules might be an extraordinary majority:

°of all adults in the jurisdiction in the case of woodstocks (or of just men, if they are the principal users, for instance where windbreaks are

concerned? or of just women, if they are the principal users, for instance where women's woodlots are concerned?)

°of resource users only, in the case of fisheries or woodstocks?

°of landholders only in the case of watershed management? (or should tenants be included as well? what about transhumant herders?)

°of stock owners only in the case of pasture management?);

-require that provision be made to incorporate into governing councils representatives of those who have used the resource periodically but not continuously, e.g., transhumant pastoralists or migratory fishermen;

-establish some minimal guarantees for respect of the rights of aggrieved persons, whether individuals, minorities or majorities (the last can arise as a problem in situations where RNRGM leadership structures replicate existing local hierarchical political forms); and

-to prevent pre-emptive strikes by the "presidents' friends" and others well placed and well informed to gain control of valuable resources, provide for both ex ante and ex post challenge processes, granting standing to those who assert they should be included in RNRGM units and providing a low-cost appeals process by which they can try to establish a prima facie case that they have been wrongfully excluded.

Enabling legislation should not establish:

-any standard forms concerning the officer selection process, mandate, duration in office or method of removal (if any) of office holders within RNRGM special purpose jurisdictions; the assumption here is that local forms are to be regarded as legitimate, whatever their structure; changes can occur later, towards more authoritarian or more democratic systems of governance, depending on members' concerns;

-any standard ("blue print") forms for operational, decision-making, or constitutional rules for such RNRGM jurisdictions.

This enabling legislation approach involves risks as well as benefits. If people can legalize their efforts at little cost, some will be tempted to seize the opportunity to establish a position for themselves at others' expense. To protect against such pre-emptive strategies, as noted, legal challenges to local RNRGM jurisdictions should be available at low cost. This would have some effect in discouraging those seeking recognition in order to deprive others of their rights.

2. Back-up Dispute Resolution and Enforcement Arrangements

The bane of local efforts to achieve closure of common pool resources and convert them into common properties, as well as to ensure secure tenure rights in land and resources (whether individualized or held in common), is the limited dispute resolution capacity of such jurisdictions. The easiest cases involve disputes in which all parties are members of the jurisdiction in which a conflict arises. These can often be resolved locally.

Disputes between a member of the jurisdiction and an outsider are less often resolved successfully. The basic rejoinder of the outsider accused of violating regulations of local general purpose jurisdictions has been that s/he is not subject to that jurisdiction and cannot be judged by its officials.⁵ If that objection is allowed to stand, *costs of resolving practically any dispute escalate*. Expenses may well escalate to the point where, from a cost/benefit calculation, it is not rational for the local jurisdiction member to seek further recourse to obtain satisfaction of his claim. Costs incurred in obtaining recourse, e.g., travel to lodge a complaint with an official authorized to act on it, costs of convoking defendants, legal (and illegal) court costs in formal systems, additional travel and living expenses while the case is being heard, and frequent difficulties (occasioning more costs) in trying to

⁵Some local jurisdictions, e.g., many Dogon and some Rimaibe communities in Mali's Fifth Region, avoided this dilemma by immediately sanctioning infractions. Local patrols traditionally meted out punishments on the spot to outsiders found violating local woodstock rules (Thomson and Sylla: 3-4). The minimum sanction patrol members imposed for infractions of local rules was to sequester the accused individual's cutting tools (Dennison, Miller and Thomson 1992: 21-23, 49-50). Often they commandeered and slaughtered the largest animal from the stranger's herd. Under those circumstances the costs of obtaining recourse are shifted to the outsider accused of an infraction.

collect judgments quickly mount up and are rarely covered by the value of the judgement recovered (Thomson 1981: 140-45, esp. 144-45). Faced with such calculations, local people often "passively" accept resource losses.

Like the proposition of refusing land to outsiders, the problem of converting open access non-land RNR to common property resources seems, in many parts of francophone sahelian Africa, a difficult issue to resolve. But failure to resolve it effectively takes all the "bite" out of local RNRGM laws. Thus it seems appropriate to propose that local jurisdictions be accorded authority to judge outsiders. If outsiders refuse, local jurisdiction officials or members should be able to obtain recourse from higher levels of the system *in having local jurisdiction decisions enforced* unless a review of the decision reveals some abuse of powers.

Once the word gets out in a local area that higher levels of government will help enforce local decisions if on review they prove legitimate, there will be less incentive for outsiders to resist local decisions in which they are judged guilty of infractions, except in cases where they see the decision as clearly tyrannical. Support from overlapping regimes for local decisions must become a matter of enforceable national government policy, not dependent on the whim, personality and political calculations of supra-village and local administrative and court officials.

One should have no illusions about the difficulty of overcoming corrupt practices within judicial, administrative and political structures in countries where three decades of authoritarian governance after independence succeeded authoritarian colonial and in some cases, pre-colonial practices. But any talk of controlling access to and use of resources, or affording resource users tenure security, is largely futile unless the working rules - the rules-in-use - are broadly known to afford efficient, low-cost, fair resolution of disputes or, in a word, some rough form of justice (E. Ostrom 1991: 94-95). Furthermore, the sahelian landscape is not bereft of positive examples in this sense. Some of these offer RNRGM models characterized by considerable equity, upon which others could be built (Dennison, Miller and

Thomson 1992: 53-68; Djibo et al.: Chaps. III, IV and VI; Thomson and Sylla; Vedeld: 130-32, 149-50).

Finally, national government dispute resolution services should not attempt to force all local rules into a standard format. If local RNRGM rule systems come over time to resemble each other, so much the better: that would decrease the work load of civil and administrative judges. But these officials should have no authority to decree such standardization, nor authority to reject local decisions because they diverge from some assumed or evolving norm (Kintz and Traoré: 53 [cf. comments on ARTS. 37, 127 and 134]; 64). The whole point of allowing divergence in rule systems is to improve the fit between rules and resources under management in the context of specific bio-physical ecological niches and in the context of distinct and unique community histories. If the fit is improved, presumably the costs of governance and management will decrease. This logic can be (and has been) overridden by asserting the importance of reducing the demands of dispute resolution on administrators' time by simplifying allowable rules. But this defeats the goal of fitting rules to situations because it inevitably renders what is already a marginal activity for many Sahelians - RNRGM - even less attractive (Painter, Sumberg and Price; Reardon and Vosti: *passim*, esp. 8-10).

The difficulty of modifying national-level code law legal systems, based on a top-down approach to regulation and dispute resolution, will be considerable. Nonetheless, some options may exist. National governments could devolve some degree of legislative authority to regional (state) or district level jurisdictions (as has occurred in Senegal and as is proposed in Mali and Cape Verde). Officials of those jurisdictions would then be assigned responsibility for applying their own enabling legislation, with appeals possible to the national court system only to challenge abuses of power or violation of constitutional guarantees. Clearly this counters the principle of organizing the national state around a single center, but the issue - at least in the context of this essay - is whether the statist or the polycentric model appears most likely to contribute to solving RNRGM problems.

3. Information Dissemination

Partly to ensure transparency, and so reduce temptations for officials and others to abuse their powers to manipulate rule systems, and partly to inform people of the successes and failures experienced in other jurisdictions attempting to improve their RNRGM systems, a free press and electronic media should be promoted. The national government can encourage these developments by guaranteeing freedom of the press and creating a framework within which media enterprises can flourish.⁶ Special efforts must be made to promote circulation of information in local languages where the official national language is not broadly and well understood, whether that language be derived from the colonial experience or from some ethnic group within the society.

It is fair to assume that, as in other parts of Africa, many good minds remain in the sahelian rural landscape. Those minds constantly process information, but the sources are frequently limited. The messages may be biased (as they typically were when furnished by authoritarian national governments). Providing for a freer exchange of ideas and experiences is an effective way to encourage people to learn from others' successes and build on their failures by first understanding and then not repeating them. In situations where economic resources are scarce, this seems not a trivial method of improving efficiency.

4. Co-Financing of Local RNRGM Initiatives

The issue of co-financing is as multi-faceted and complex as the others. Clearly if national governments provide back-up dispute resolution and enforcement services they are providing an important subsidy to local RNRGM initiatives. The real conundrum is how to provide support without increasing the dependency of local RNR users on outside assistance, and without discouraging or even killing off local RNRGM initiatives. Some evidence suggests that when outside subsidies exceed half the costs (50%) of an investment, local initiative tends to wither, a "welfare" mentality sets in, and resource users will

⁶Donors and NGOs can help considerably in this regard with relatively small investments in training journalists, providing credit for or subsidizing acquisition of presses and transmitters by private operators and groups, and supplying legal assistance to journalists facing law suits or administrative sanctions because of their articles or editorials.

no longer attempt to manage or govern resources in the absence of "the union wage" (E. Ostrom 1992: 83-85).

A second, related issue is whether in some situations and for broader policy reasons (e.g., efforts to stem urban migration and keep people on the land) subsidies exceeding 50% or even outright gifts are the better part of valor in trying to maintain and support local capacity for initiative. Such welfare transfers may well be rational in situations where resource users have other options and strong incentives to diversify their income sources.

5. Bio-Diversity Support

The national government may well be the most appropriate jurisdiction in some cases to take responsibility for preservation of biodiversity. It is not necessarily always so. In some situations local people (Bushmen populations in Namibia, for instance [Biesele, Green and Hitchcock]) may have strong incentives and proven strategies for preserving biodiversity. The intersection of institutional arrangements at sub-national levels and actor interests may be more conducive to biodiversity conservation in some countries than continuing reliance on the forestry, environmental or national park service.

Concerns for achieving a reasonable balance between biodiversity conservation and livelihood concerns of human populations must be accorded a prominent place. If not, the humans will end by getting the better of the biodiversity. Schemes and experiences are beginning to surface that indicate the two may not be everywhere as incompatible as they have often been portrayed. Indeed, while the idea of integrated conservation and development projects has been imperfectly translated into practice, it clearly holds some promise. The critical issue is whether resource users can derive enough benefit from sustained-yield use (or non-use) to justify foregoing consumption of habitats where rare flora and fauna survive. Once again, the bottom line questions turn around whose interests are at stake and what possibilities exist of lining them up so that various actors, local, national, and other, collaborate and coordinate to promote a goal that is common, but sought for different reasons.

6. No Direct Responsibility for Establishing and Enforcing

"Rules of the Game" for RNRGM

National governments should withdraw from the RNRGM sector and not try to re-enter it, except in situations where the national jurisdiction is to play a lead role in biodiversity conservation. In all other cases, local realities work against a direct role for national regimes. The first argument justifying national modesty in this regard follows from the fact that the "the RNRGM game" is not singular, but almost unendingly plural. In the second place, the level of detail required to understand the effective consequences of formal rules in influencing RNRGM behavior in any single game, and how much working rules for RNRGM diverge from or conform to formal rules, is difficult to master. Third, it is well nigh impossible to reduce such rules across multiple games to some common denominator of a standard set of formal regulations that will give satisfaction everywhere.

Instead, authority for making and modifying RNRGM rules in light of experience, and authority for enforcing those rules should be devolved to and vested in local jurisdictions whenever they indicate interest. As noted above in D.2., the role of the national government, and the national administrative and court systems, should be limited to reviewing local dispute resolution decisions and supporting those that appear legitimate, rather than retrying cases, or substituting rules derived from formal national legislation for those derived from local institutional arrangements. In addition, those same national units should provide back-up enforcement for local efforts and RNRGM.

7. Responsibility for RNRGM Planning Limited to Biodiversity Concerns

For reasons outlined above in D.5., the national government's role in planning for RNRGM activities should be limited to those areas of biodiversity conservation effort where the national government is most appropriately involved. Donors should recognize this and transfer much more support to local RNRGM institutions, as the indispensable starting point of a process that must over the long run make RNRGM more attractive (more feasible, more productive, less risky, less costly) for users.

8. Conclusions

This essay has argued that national governments have a very limited role to play in most RNRGM problems. This follows from the demonstrated failure of the statist, or single-centered approach to RNRGM, and from the logic of most RNRGM situations. That logic reflects the highly variable local situations in which most RNRGM are found, and the importance of accurate local time and place information in making well-informed and effective RNRGM decisions. It reflects as well the need for efficient, low-cost and equitable enforcement of suitably adapted RNRGM rules.

Pursuing a polycentric approach to RNRGM places considerable burdens on communities to take responsibility for their own resources. Unfortunately, some will fail. That appears to be the price of creating a set of policy incentives that will more effectively encourage self-governance in the RNR sector. National government officials who accept and support this approach can make an indispensable contribution to better local RNRGM by creating appropriate enabling legislation. Those who oppose it will probably contribute in a major way to the further impoverishment of their own countries and their rural countrymen by hastening destruction of local RNR bases.

BIBLIOGRAPHY

- ANON. 1988. *The Sahel Facing the Future: Increasing Dependence or Structural Transformation*. Paris: OECD. 267 pp.
- BIESELE, Megan, David Green and Robert Hitchcock. 1992. "Decentralization and Natural Resources Management: Namibia Field Report." In "Decentralization and Local Autonomy: Conditions for Achieving Sustainable Natural Resource Management." Prepared for USAID/AFR/ARTS/FARA. Burlington, VT: Decentralization: Finance and Management Project, Associates in Rural Development, Inc. Vol. II (appendices). 41 pp.
- BLOCH, Peter. 1993. "The Rural Code Process in Niger: Toward an Institutional Framework for Natural Resource Management." In *Institutional Issues in Natural Resources Management*. Ed. by Henrik Secher Marcussen. Occasional Paper N° 9. Roskilde, Denmark: International Development Studies, Roskilde University. pp. 113-20.

- CAMPBELL, Paul. 1990. "Malian Forest Law and Its Application in the Koro Circle: Existing Laws and Their Enforcement as an Impediment to Agroforestry Development." Unpublished paper. 24 pp.
- COULIBALY, Chéibane and James T. Thomson. 1993. "Décentralisation au Sahel." Document de travail provisoire ; Conférence régional sur la problématique foncière et la décentralisation, Praia (Cap-Vert), mars 1994. Paris: Club du Sahel/OCDE, nov. 1993. 46 pp.
- DENNISON, Steve, David Miller and James T. Thomson. 1992. "Decentralization and Natural Resources Management: Mali Field Report." In "Decentralization and Local Autonomy: Conditions for Achieving Sustainable Natural Resource Management." Prepared for USAID/AFR/ARTS/FARA. Burlington, VT: Decentralization: Finance and Management Project, Associates in Rural Development, Inc. Vol. II (appendices). 70 pp.
- DEWEY, John. 1927. *The Public and Its Problems*. New York, N.Y.: Holt.
- DJIBO, Hadiza, Chéibane Coulibaly, Paul Marko and James T. Thomson. 1991. "Decentralization, Governance and Management of Renewable Natural Resources: Local Options in the Republic of Mali." *Studies on Decentralization in the Sahel*. Vol. 3. Prepared for the Club du Sahel/OECD.
- ELBOW, Kent and Alain Rohegude. 1990. "A Layperson's Guide to the Forest Codes of Mali, Niger, and Senegal." LTC Paper. Madison, WI: Land Tenure Center, University of Wisconsin-Madison. 85 pp.
- KINTZ, Danièle et Ousmane Traoré. 1993. "La décentralisation opérationnelle en matière foncière : étude-test en cinquième région." Bamako, Mali: République du Mali, Mission de Décentralisation, etc. 71 pp.
- MARCHAL, Jean-Yves. 1979. "L'espace des techniciens et celui des paysans ; histoire d'un périmètre antiérosif en Haute-Volta." In *Maîtrise de l'espace et développement en Afrique tropicale : logique paysanne et rationalité technique*. Actes du colloque de Ouagadougou, 3-8 décembre 1978. Paris: ORSTOM. pp. 245-52.
- OAKERSON, Ronald J. 1992. "Analyzing the Commons: A Framework." *Making the Commons Work: Theory, Practice, and Policy*, ed. Daniel W. BROMLEY et al. San Francisco, CA: ICS Press. pp. 41-59.
- _____. 1993. "Institutionalism and Policy Reform: A Framework for Institutional Analysis and Design." Program of Reform in the Agricultural Marketing Sector, Phase I Research Program: Background Paper. Prepared for USAID/Cameroon.

- Burlington, Vt.: Decentralization: Finance and Management Project, Associates in Rural Development, Inc. 40 pp.
- OSTROM, Elinor. 1991. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press. 280 pp.
- _____. 1992. *Crafting Institutions for Self-Governing Irrigation Systems*. San Francisco, CA: ICS Press. 111 p.
- _____. 1993. "Social Capital and Development Projects." Paper presented at the workshop on "Social Capital and Economic Development," American Academy of Arts and Sciences, Cambridge, MA, July 30-31.
- OSTROM, Elinor, Larry Schroeder and Susan Wynne. 1993 *Institutional Capital and Rural Infrastructure Maintenance; Infrastructure Policies in Perspective*. Boulder, CO: Westview Press. 266 pp.
- OSTROM, Vincent. 1991. *The Meaning of American Federalism: Constituting a Self-Governing Society*. San Francisco, CA: ICS Press. 299 pp.
- PAINTEUR, T[homas], J. Sumberg and T[homas] Price. 1993. Your "terroir" and my "action space": implications of differentiation, movement and diversification for the *approche terroir* in Sahelian West Africa." Paper presented at the Seminar on "Improved Natural Resource Management -The Role of the State versus that of the Local Community" organized by International Development Studies, Roskilde University, at Jyllinge, Denmark, 1-4 November. 29 pp.
- REARDON, Thomas and Stephen A. Vosti. Forthcoming. "Effects of Policy on Productivity and Conservation Investments at the Household Level in Developing Countries: Channels of Impact and Research Issues." In *Sustainable Agriculture, Growth and Poverty Alleviation: Issues and Policies*, ed. by Stephen Vosti and Thomas Reardon. Baltimore, MD: Johns Hopkins.
- THOMSON, James T. 1977. "Ecological Deterioration: Local-Level Rule-Making and Enforcement Problems in Niger." In *Desertification: Environmental Degradation in and around Arid Lands*. Ed. by Michael H. Glantz. Boulder, CO: Westview Press. pp. 57-79.
- _____. 1980. "Preliminary Evaluation." OXFAM Micro-Catchment Project, Ouahigouya, Upper Volta. Ouahigouya, Upper Volta: OXFAM.
- _____. 1981. "Public Choice Analysis of Institutional Constraints on Firewood Production Strategies in the West African Sahel." In *Public Choice and Rural*

- Development*. Ed. by Clifford S. Russell and Norman K. Nicholson. (Research Paper R-21) Washington, D.C.: Resources for the Future. pp. 119-52.
- _____. 1991. "Decentralization, Governance and Problem-Solving in the Sahel." Sahel Decentralization Policy Report, Vol. I. Prepared for Office of Sahel and West Africa Affairs, Africa Bureau, Agency for International Development. Burlington, VT: Decentralization: Finance and Management Project, Associates in Rural Development, Inc. 28 pp.
- THOMSON, James T. and Djeidi Sylla. 1985. "Local Environmental Management Practices and Orientations for Rural Forestry in Mali's Fifth Region." Prepared for USAID/Bamako. Burlington, VT: Associates in Rural Development, Inc. ix., 24 pp.
- VEDELD, Trond. 1993. "The State and the Commons in the Sahel: Observations on the Niger River Delta in Mali." In *Institutional Issues in Natural Resources Management*. Ed. by Henrik Secher Marcussen. Occasional Paper N° 9. Roskilde, Denmark: International Development Studies, Roskilde University. pp. 121-55.
- WARE, Helen. 1977. "Desertification and Population: Sub-Saharan Africa." In *Desertification: Environmental Degradation in and around Arid Lands*. Ed. by Michael H. Glantz. Boulder, CO: Westview Press. pp. 165-202.
- WUNSCH, James S. 1990. "Centralization and Development in Post-Independence Africa." In *The Failure of the Centralized State: Institutions and Self-Governance in Africa*. Boulder, CO: Westview Press. pp. 43-73.