

LTC Paper

TENURE POLICY AND NATURAL RESOURCE MANAGEMENT
IN SAHELIAN WEST AFRICA

by

Steven W. Lawry



**LAND
TENURE
CENTER**

An Institute for Research and Education
on Social Structure, Rural Institutions,
Resource Use and Development

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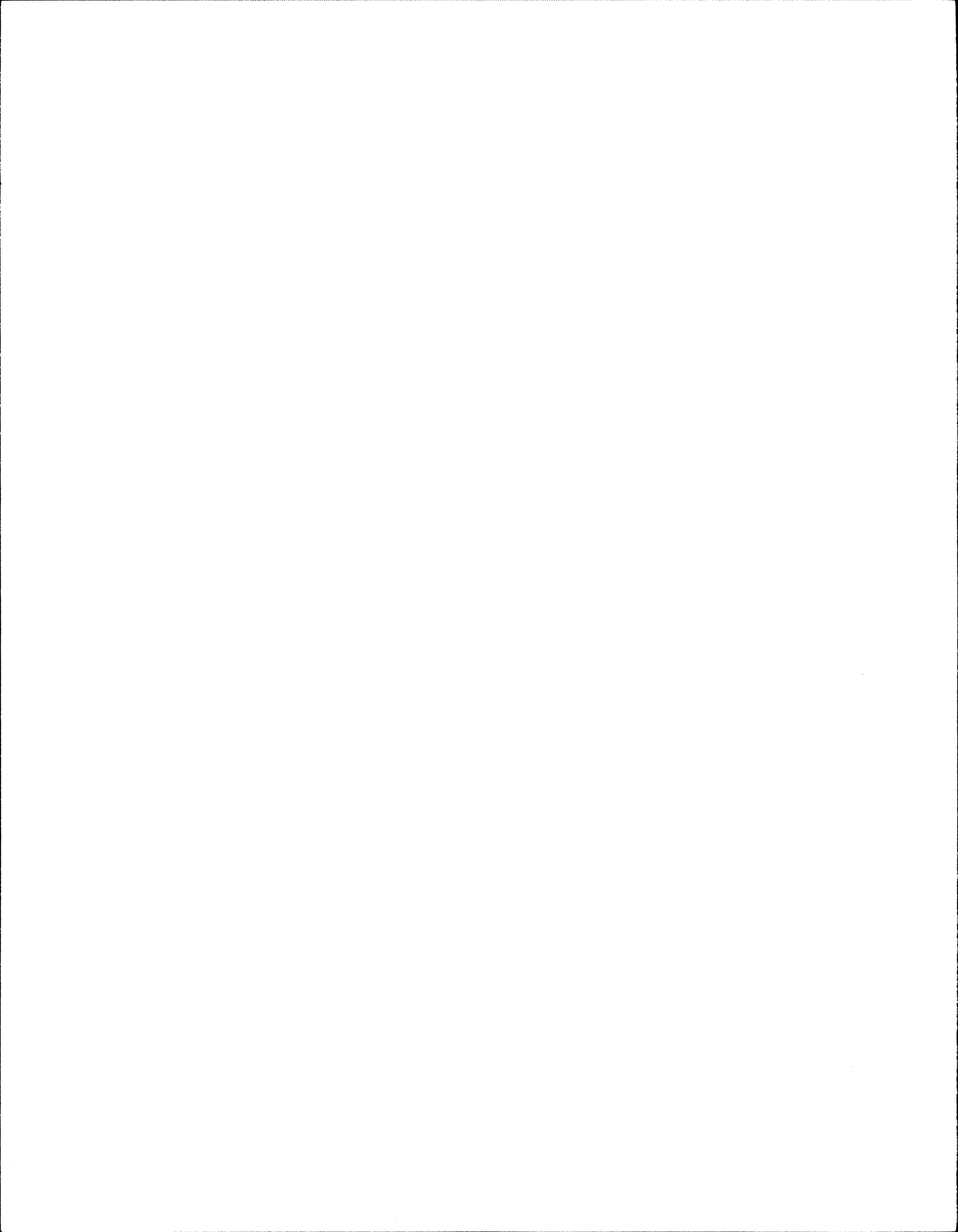
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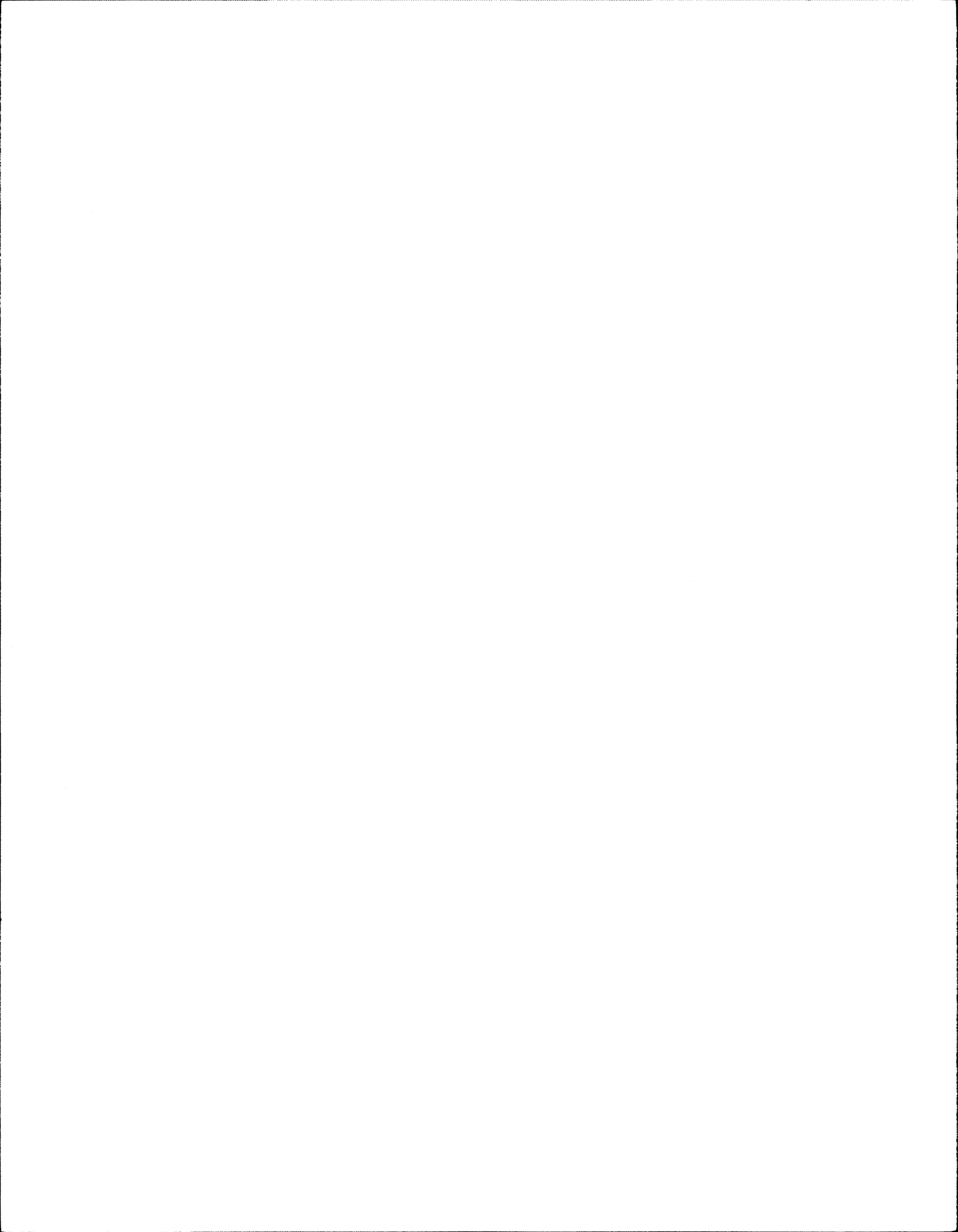
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PREFACE

This is the first in a series of Land Tenure Center publications on problems of tenure and natural resource management in sub-Saharan Africa. Funding for this major new area of LTC research has been provided by Africa Bureau of the U.S. Agency for International Development at the initiative of its Office of Technical Resources. The grant is provided through the Land Tenure Center's Cooperative Agreement with the Bureau of Science and Technology (S&T), USAID, and supplements S&T's funding for LTC's research program.

The impetus for this paper came from the Sahel and West Africa Office of Africa Bureau, which asked LTC to undertake a study of how the tenure policies of Sahelian countries affected farmer and community management of natural resources. It is intended that the paper provide a basis for policy dialogue among Sahel states and donor countries on policies affecting natural resource management. The paper also suggests an agenda for future research on relationships between tenure policy and natural resource management in the Sahel.

Many people provided assistance to various aspects of the research. In USAID/Washington, John V.D. Lewis of AFR/SWA first suggested that LTC undertake this study. Important assistance was provided by Tom Hobgood, Mike McGahuey, and Lee Hall at AFR/TR/ANR, and by Gloria Steele at S&T/RD. Michael Yates of S&T/RD and Curt Reintsma of AFR/PD/SWAP provided thoughtful remarks at the Washington seminar where this paper was first presented. Jacob Roimans of the Club du Sahel also commented upon an earlier draft of the paper. The paper benefited greatly by discussions and information collected in the course of visits to Niger, Mali, Senegal, and The Gambia in July and August 1988. Staff of USAID missions in these countries provided assistance in arranging meetings with government staff, local organizations, and farmers. Kent Elbow, LTC research assistant, accompanied me on the trip and took on particular responsibility for reviewing forest codes. Mr. Elbow, John Bruce,

and Peter Bloch provided extensive comments on earlier drafts of this paper. I am grateful to all of those who have assisted.

A slightly modified version of this paper is available in French as LTC Paper 130-F, "Politique de tenure et gestion de ressource naturelle dans l'Afrique de l'ouest sahélienne." An earlier version of this paper was presented at the Seminar on Land Tenure Issues in Natural Resources Management, sponsored by the Africa Bureau of USAID and held in Washington, D.C., on November 1, 1988.

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Madison, Wisconsin
January 1989

Tenure Policy and Natural Resource Management in Sahelian West Africa

Introduction

State involvement in resource management in the Sahel is direct and massive. States have pursued their resource-policy objectives in part through tenure policies and particularly through reforms which concentrate rights to resources in the hands of states and their resource-management agencies. This approach has given rise to problems. In many cases, state assumption of administrative rights to common property resources has reduced the ability of local communities to manage local pastures, forests, and fisheries. Ambivalent state attitudes toward customary tenures and a lack of clarity over farmer rights to farmland and trees have affected farmer incentives for investing in desirable soil and agricultural management practices.

This paper considers some key aspects of current tenure policies for their impacts upon resource management in the Sahel. It also identifies some opportunities for promoting tenure changes conducive to better management of natural resources. The paper concentrates on three sets of tenure issues.

1. Sahelian states claim ownership of common property resources, including grazing land, forests, fisheries, wildlife, and wetlands. An important effect of state ownership is that local-level arrangements for managing resource use have no legal standing. Local communities cannot assert control over resources in relation to outside users and in many cases over how local residents use resources. State strategies for resource management concentrate on enforcement of national legal codes and give little attention to developing economically viable resource-management schemes which would have the support of local users. This approach has contributed to a resource use "free-for-all" and in many places has increased resource degradation.

2. At the farm level, the long-term land rights of individual farmers need to be clear and unambiguous if the farmers are to invest in desirable technologies and management practices. States, instead of extending a wider range of private property rights to farmers, have often nationalized land and established leasehold or other forms of tenancy granted by the state. Although the intention of these reforms was to streamline land administration and to standardize land-tenure systems, they have in many cases had the effect of reducing farmer tenure security, particularly in relation to evolving customary tenures, where the balance of rights has been shifting in favor of the individual, in this case the farmer. Generally, states have not been able to put in place effective systems for titling and registering land rights. Policy dialogue is needed which encourages governments to strengthen farmer rights.

3. West African states seek to regulate farmer management of trees on the farm through administration and enforcement of rules set out in forest codes. Forest codes, and especially aggressive and arbitrary rule enforcement, have added costs and uncertainty to tree production, reducing the incentives for farmers to plant trees. Forest codes need to be reformed to give greater control to farmers over tree use and management decisions on the farm.

I. The Impacts of State Ownership of Common Property Resources on Local-Level Resource Management

In the 1930s, the French colonial administration declared that unutilized and uncultivated land in the Sahel belonged to the state. This was done out of concern for a rapidly degrading environment. The Forest Code promulgated throughout the Sahel in the 1930s was a typical example of an approach to resource management based upon centralized state control and administration. Various classes of forest domain were established, within which states more or less intensively regulated forest use and other potentially competitive land uses, including grazing and cultivation. Management was to be achieved through administration of use permits and enforcement of regulations. Substantial

financial and manpower resources went into large-scale, state-run commercial forest enterprises and to building up enforcement capacity, but little was allocated for farm-level or community extension services. Forest departments took on the characteristics of paramilitary units, and forest agents were granted broad police powers.

An important effect of state assumption of ownership of common property resources was that local or regionally based institutions lost legal rights to control local resource use. While local authority became ineffectual, state agencies were unable--because of limitations of staff and funding--to put in place effective management systems. The basis of local management systems was the exercise of territorial rights to local resources. Nongroup members were prohibited (or restricted) access to grazing (or forests or fisheries). This reduced pressure on local resources, and because users shared social or political affiliation, their political institutions provided some basis for local regulation of use as well. An important implication of state assumption of ownership was that local systems of resource control--where they operated--lost political authority. In many places, resource use became a free-for-all, and resources formerly sufficient to support local communities became subject to overexploitation by outsiders. As important, the emergence of local solutions to future resource-management problems was effectively forestalled.

Case Study: The Niger River Delta, Mali

A graphic example of the effects of state assumption of ownership is the Niger River Delta in Mali. The delta is a highly productive and complex ecological system, supporting high levels of livestock, fisheries, and irrigated rice production. However, the delta is an ecological system under stress. The area of "live" delta has been reduced in recent times from 25,000 km² to 18,000 km². This has been attributed to a number of factors, including overgrazing and reduced water levels due to drought. Prolonged drought in rain-fed areas of the Sahel zone has led to a steady in-migration of new settlers and more intensive use of the delta's resources. Conflict between major groups using the delta--herders, fishermen, and rice producers--is high. The state assumed ownership of all resources at independence in 1960 and in the process

supplanted the authority of local groups to regulate access to and use of local resources. Groups have been unable to reassert previous preferential rights to local resources, with the result that resource use has become a free-for-all in much of the delta.

This was not always the case. In 1818, the powerful Fulani leader Amadou established a comprehensive grazing-control system in the delta called the dina. The dina system regulated the sequence in which various pastures in the delta were grazed along with the grazing rights of different groups. The system was administered by a council of 80 territorially based chiefs appointed by Amadou. The council established rules and coordinated livestock movements throughout the delta. Chiefs were responsible for managing their home grazing areas. The dina was not principally a resource-management system, but rather a centralized administrative structure for governing rights of access to grazing. Importantly, the system provided a structure for collecting livestock taxes. But the dina had the effect of rationalizing grazing patterns so that grazing pressure was fairly evenly distributed. The sequence of grazing was also coordinated to take account of crop cycles.

Similarly, local systems of fisheries management were practiced by the three main fishing groups in the delta, the Bozo, Somono, and Sorko. Briefly, regulation was based on village control over local fish resources. The timing of fishing, size of specimens kept, and technology used were regulated by a local fish master. Outsiders were excluded from local fishing grounds.

The dina functioned as a management system for as long as the Fulani remained the dominant group in the delta, and livestock production, the dominant form of land use. The coming of French colonial rule weakened the political basis for the administration of dina. With independence, the state took further steps to dismantle the rights of traditional authorities over land and land management. Fulani hegemony in the delta was ended. Other groups could now pursue competing objectives without the restraint of Fulani territorial control. Likewise, fishing groups could no longer assert special rights over local fisheries. "Outsiders" moved into local fishing grounds and did not observe local fishing controls. In recent years, fishing has been taken up by

former herdsmen and cultivators, and pressures on the fishery have increased. In 1965, new smaller-mesh fishnets were introduced in the region leading to higher off-take of immature fish. Expansion of rice cultivation has reduced spawning areas.

Traditional grazing and fishing controls were not replaced by effective systems of state control. One official I spoke with in Mopti in February 1988 characterized the situation in the delta as "empty" of any institutional or tenorial basis for resource management and control. The problem has been exacerbated by the redrawing of cercle and district boundaries throughout the delta region without reference to traditional social or natural ecological units. The former rough correspondence between social and political units and areas of resource use has been obliterated.

It is not difficult to understand why state agencies proved incapable of providing management. A key to success in managing communal resources subject to seasonal and annual variation in productivity is good, timely information about resource condition. Relatively centralized government bureaucracies are not particularly well-placed to collect, analyze, and act upon this kind of information. Management decisions are best taken by users, whose welfare is most immediately affected by the condition of resources. And it should be borne in mind that the state's principal objective in centralizing control was to assert its political authority over local interests, not to impose a new resource-management regime. States throughout the Sahel have concentrated their regulatory efforts on individual users, not on local user groups.

Common property management would benefit from clarification of user-group rights to particular resources and territories. Confusion and uncertainty have created incentives for overuse and more rapid depletion of resources (Thomson 1982). Use agreements, perhaps adjudicated and guaranteed by government, could be worked out between competing groups. The International Union for the Conservation of Nature (IUCN) is developing a prototype model for assigning group rights to different resources in the Youvarou Cercle in the inner delta, and experiences there should be followed closely.

While there would be clear benefits in devolving key management prerogatives to local authorities, such a strategy will have its own risks and problems. State regulatory agencies and donors may expect too much of local authorities in enforcing intensive management controls on local users. While community members may prove enthusiastic in defending their local resources against encroachment by outsiders, they will be less willing to support vigorous application of rules against themselves. Local authorities whose powers have atrophied rarely have the authority, or the desire, to enforce rules which may be unpopular among large segments of their local constituencies.

Cooperation will be greater, and enforcement costs lower, where the economic incentives for individual villager cooperation are clear and unambiguous. Unfortunately, it is often the case that planners of common-property management schemes such as village woodlots do not consider how the benefits of the scheme will be distributed among individual participants in relation to, for instance, individual labor contributions. This is a tenure issue--rights to common pool benefits in relation to individual costs--which needs priority attention in the design of all types of common-property management scheme.

What is needed is more truly collaborative undertakings by states and communities, in which states provide needed technical and planning assistance and back-up rules, which are generally acceptable to communities but which the communities themselves may have difficulty enforcing. Communities would take the lead in identifying resource-management programs that serve economic and development objectives and in defining tolerable limits of rule enforcement or control. There are few working models which illustrate this approach, perhaps because planners so often insist upon approaches that rely exclusively on one institution or the other--the state or the community--without regard to the necessity for collaboration. One useful model has evolved out of a USAID-funded program in the Guesselbodi Forest Reserve in Niger.

Case Study: Guesselbodi Forest Reserve, Niger

The USAID-funded Forest and Land Use Planning (FLUP) project in Niger provides several useful lessons on appropriate state and local

roles in common property management. Guesselbodi is a 5,000-hectare forest reserve 25 km east of Niamey. It was extremely degraded and overgrazed when the FLUP project began there in 1981. A management plan was put in place in September 1983 which combines promotion of ecological objectives (sustained forest production) with generation of economic benefits for the local population through marketing of fuel wood in Niamey. From the outset, the project gave strong emphasis to management and organizational issues. What evolved was a division of responsibilities for forest management among the Forest Service, a local cooperative established for marketing wood from the forest, and individual woodcutters granted rights to cut and supply wood to the cooperative.

The Forest Service (with significant technical assistance from FLUP) is responsible for overall management and control of the forest. It establishes technically acceptable harvest rates, supervises tree planting and forest-management activities, and supervises forest guards, hired from outside the area to control grazing and illegal harvesting.

The cooperative [established with assistance from the Cooperative League of America (CLUSA)] has been granted exclusive rights to collect and market all harvestable wood in the forest, consistent with the management guidelines established by the project. Income from sale of wood is distributed on an equal-share basis among resident villagers. The cooperative in turn grants permits to local woodcutters to harvest wood. Cutters pay 1,000 CFA per month to harvest a maximum of 25 m³ of fuel wood each. Approximately 150 woodcutters work the forest reserve at any given time.

The Guesselbodi model provides an appropriate mix of state and user roles. Here the state establishes overall use standards and grants use rights to a viable local group (the cooperative) which can organize utilization for the benefit of local residents. It is important to note that the state retains its rights over determining harvest rates and other management policies. Importantly, the state takes an active role in the enforcement program. Rigorous enforcement of rules against overuse by local residents is something the cooperative would find difficult.

Grazing Management and Grazing Rights

Governments and donors are recognizing that pastoral or grazing associations can provide an institutional base for organizing intensive pasture and livestock-development projects. In Senegal and Niger, the World Bank is assisting projects which assign rights to particular grazing areas and water points to user associations. In Mali, a new pastoral code is under preparation. A 1988 draft of the code would grant extensive pasture rights to designated groups, provided they agree to observe certain use conditions. In a broad sense, these approaches represent a return to earlier principles of grazing control, based on territorial rights. A major issue in devolving control will be determining principles for assigning particular groups to specific areas.

II. Tenure of the Holding and Resource Management

How is tenure a factor in resource management at the farm level?

Management of resources for sustainable production means that a given resource will be used so that over the long term, the resource's productivity for agriculture or other uses will be maintained at some optimal level. Thus, sustainable crop production may require that soil fertility be maintained through use of planned fallow cycles and/or fertilizers. Depending upon slope, soil type, and cultivation practices, rates of soil loss may be reduced through run-off and erosion controls. Reducing the effects of wind erosion on exposed soil surfaces may require planting of windbreaks. Sustainable livestock production may require limiting animal numbers at a given rangeland's carrying capacity.

Security of Tenure and Freedom of Management Are Critical Needs for Investment in Sustainable Agriculture

Neoclassical economic theory suggests that property rights, or systems of resource and land tenure, are important factors in decisions individuals make concerning resource use and management. Where a user's property rights are clear and unambiguous, the user will be more likely to utilize the resource in ways that maximize its long-term

productivity. Where tenure rights are secure, returns to investment will accrue to the landholder and the benefits of improvements will not be claimed by someone else or dissipated among a number of "free riders." He or she will be more inclined to use inputs such as fertilizer and invest in windbreaks, terracing, and other capital improvements which would pay returns over the long run.

Customary tenures usually refer to systems where some social authority or local political entity exercises administrative rights over land. Individuals have rights to land by virtue of their membership in the social group. Individual rights are usually in the form of long-term usufruct rights. In areas where land is relatively plentiful, a qualified individual may exercise his rights simply by clearing unclaimed land. In areas where land is less plentiful, a recognized land trustee, perhaps the chief or lineage head, may allocate land and otherwise enforce land rules. An individual's rights do not normally extend to sale but accommodate a wide variety of transactions and transfers among farmers, within families, and between generations. According to Cohen (1980), "If land is not directly salable, it can be passed to others through a variety of actions, often with a profit." Because land cannot be alienated from the tribe or community trust, it is usually not accepted by commercial banks as security for loans.

Customary land-tenure systems as well as contemporary land-reform policies in sub-Saharan Africa have been criticized for their apparent failure to provide farmers with adequate security of tenure. While some criticisms of customary tenure are well-founded, they are more often based on an inaccurate reading of customary tenure rules as they relate to more familiar, Western property-rights systems. Although customary tenure systems are characterized by great diversity and generalization is difficult, customary systems usually provide adequate security to farmers and are evolving in ways that extend greater security. In contrast, many new forms of state tenure have often reduced the range of individual rights instead of extending them.

Land legislation in most West African states has placed ownership of all land in the hands of the state, and land rights are no longer vested in traditional, territorially based groups. However, most states

have been unable to put in place effective systems for allocating and administering land, and customary land-allocation systems continue to operate, by acquiescence or by default, in much of West Africa. While by law states claim ownership, the de facto functioning of customary tenure principles may be accommodating the evolution of stronger individual rights.

Customary Land-Tenure Systems Are
Evolving Individual Land-Tenure Systems

A common criticism of customary tenures is that they do not provide farmers with sufficient assurance that their long-term land rights are secure and they would benefit over the long run from current investments in desirable management practices. Because original allocation rights are vested in the community (or delegated to the community by the state), there is a tendency for outsiders to attribute full ownership rights to the community or its representative. In this view, farmers are only occupying the land and can be ejected at the will of the land authority. In practice, and in customary law, this is not an accurate characterization. An individual's use rights are well established in customary law and usually secure. In most places, land is inheritable. Usually, conditions for losing land are explicit and well understood: the most common condition for maintaining use rights is that the land be cultivated, taking account of periodic fallow. An important social goal of customary systems is to provide members of the community with the means for making a basic living. Where alternatives to agriculture are not yet widely available, as in the Sahel, this remains an important function.

The land rights of some classes of farmers may not, however, be as strong as those held by others. Stranger farmers, an important phenomenon in West Africa, are treated as guests in a community and are granted temporary rights to cultivate. In some cases, they are easily absorbed through marriage or inheritance systems into the local group. But in others, undertaking permanent improvements is interpreted as an assertion by strangers of permanent rights and is resisted by the host community. This is a predictable response where basic land rights are derived from membership in a particular social grouping. Women do not

usually qualify for independent use rights, but gain access to land through their husbands and may lose this right through divorce or the death of their husbands.

Because customary tenures are administered by local institutions and are sometimes bound up with complex social relations and obligations, the administration of rules can get entangled in local political machinations. On rare occasions, individuals may lose their land because they got on the wrong side of the chief or other authorities. To the extent that this sort of fear may contribute to a general sense of insecurity, customary tenures may in fact constrain farmer investment. Where this is a problem, there is a need to build protection or recourse against capricious action into land regulations.

Customary tenure systems are not static. In many parts of Africa, customary tenures are evolving in ways that extend a wider range of rights to individuals. Land markets are appearing in areas of land shortage, where young farmers can no longer secure land through traditional allocation or the amount of land to be secured through inheritance is too small to be economically viable.

There are also numerous examples of successful commercialization of agriculture under customary tenure systems. The most notable cases are found in western Nigeria and Ghana, where commercial cocoa production developed under customary tenures (Berry 1975). The growth of intensive, commercial farming opportunities near urban markets increases land values, and entrepreneurs are developing mechanisms for buying customary land rights (Lawry 1988). Customary systems increasingly accommodate sales and other kinds of transactions, including leasing and renting (Bruce 1986).

There is sometimes a tendency to attribute the failure of farmers to adopt technologies or soil-conservation practices to tenure constraints, when the recommended investments are in fact not economically or technically viable or do not address what farmers themselves consider to be problems. Tenure reforms alone will not unleash higher levels of investment where market conditions will not yield satisfactory returns to investment. A specific tenure rule may easily fall away when the balance of a whole complex of factors affecting farm

management shifts in favor of adopting a new practice or technology. For instance, where sufficient numbers of farmers plant forage crops between food crop-production seasons, conventions giving community livestock-grazing rights to stovers between harvest will not normally constrain planting of forages.

State Reforms Have Not Strengthened Individual Rights
and Have Often Stymied Tenure Evolution in Response to
New Technologies and Markets

Post-independence land legislation in most West African countries has usually granted states ownership of all land and natural resources, rather than converting customary tenures to freehold. Landholders in urban areas or commercial farmers may, in terms of the legislation at least, lease land from the state. However, these new and supposedly more secure forms of tenure may entail a number of conditions which farmers find onerous. For instance, rents have to be paid on commercial leaseholds, and leases impose time limits on the life of the agreement. Although these are normally long term, customary tenures usually set no explicit limit to the exercise of inheritable use rights. Land leased from the state usually must be surveyed and registered, at high cost to the farmer. The result in many places is that average farmers do not opt for these new forms of tenure which, because they involve the state in land matters in new and unfamiliar ways, are perceived as less secure than customary tenures.

State reforms in Senegal may have stymied the evolution of stronger individual rights within customary systems. Well-established customary rights to lend, mortgage, and sell land were outlawed by the National Domain Law of 1964, under which farmers have no transactions rights. All transactions, including inheritance, are now under the control of rural councils (Hardy Golan 1988).

Land legislation can contribute to insecurity in other ways. Large operators from outside an area may welcome direct state intervention because it may have the effect of reducing the smallholders' rights of recourse to local land authorities (Grayzel 1985). This kind of state intervention may have the effect of cutting off the evolution of greater

individual rights within localized systems, at a level where smallholders are more likely to maintain a foothold.

III. Forest Codes and the Effects of State Control of Resource Use at the Farm Level

State agencies have attempted to impose their own management standards on users by affecting the incentive structure they face in using resources. Forest codes of Sahelian states all embody the view that the state is the best judge of how forest resources, including trees occurring on the farm as well as forests in communal area, should be utilized. State management standards are administered through a system of permits for use and fines for rule violation.

Case Study: The Mali Forest Code

The Mali Forest Code is typical of forestry legislation in the Sahel. The current code became law in 1986, but its key provisions are not markedly different from its predecessor (1968) or the first code promulgated by the French in 1935. The 1935 code established forest reserves, subject to strict use and management controls. Four tree species were designated as "protected" and could not be uprooted, cut, or damaged in any way. The cutting of four other species for firewood was prohibited. Subsequent revisions of the code expanded the list of protected species, so that today, ten indigenous species are listed. Included among them are Acacia albida, nere, and karite, three of the most common and economically important tree species in Mali.

The 1986 code incorporates special provisions for trees and forests in the Sahelian zone. There, uprooting or cutting of trees or bushes in order to provide animal feed is forbidden. Cutting of branches less than 1.5 m from the ground is prohibited. These restrictions apply to all species of tree, native and exotic, and all trees occurring on individual holdings.

The area of general jurisdiction of the Forest Code is the "forest domain," which is defined as all land that is not cultivated or planted in orchards, land in cities and towns, and nonwooded parcels of land

to which individuals have title under the Code Domanial et Foncier (that is, surveyed and registered land, a minute percentage of the area of the country). Practically speaking, about 90 percent of the land area of Mali is considered forest domain under the terms of the code. Cultivated land which has been left fallow for more than five years is considered part of the forest domain. All protected species listed in the code are protected wherever they occur in the country, including within cultivated fields.

Within the forest domain, territorial units are further classified as "protected forests," "forest reserves," or "périmètres restauration." Périmètres restauration are areas undergoing planned reforestation under the supervision of the forest service or areas considered in need of special protection. Cultivation and grazing are disallowed in reserves, except in special circumstances and under controlled conditions. Subsistence cultivation is permitted in protected forests, as is grazing.

Individuals collecting wood, including fuel wood, from the forest domain for commercial purposes must secure a permit from the forest service. Collecting deadwood in "protected forests" for domestic use does not require a permit. On individual holdings, the Forest Code requires farmers to secure a "free" permit to harvest listed species.

Those who violate rules, including those who fail to secure a free permit, are subject to citation by forest agents and payment of fines. Permit fees and fines are important sources of forest service revenue. Of the fees and fines collected, 75 percent is allocated to the Forestry Fund, which finances the activities of the Forest Service. The remaining 25 percent is distributed as commissions to Forest Service personnel. Forest agents receive a percentage of all fine revenue generated by their individual enforcement activities. Reliance upon fines rather than permit revenues has been increasing. In 1969, 24 percent of non-donor Forest Fund revenue was generated by fines and 76 percent by permit fees. In 1984, 49 percent of revenue was in the form of fines, and 51 percent came from permit fees (Lai and Khan 1986).

The reliance by the Forest Service on strict enforcement of the Forest Code as the centerpiece of forest-management policy has been

widely criticized. Forest agents are seen generally by the public as paramilitary police agents. Heermans (1986, p. 69) writes that "as long as [the forest agent] is perceived by villagers as a paramilitary guard and not a benevolent extension agent, it will be difficult to integrate villagers successfully into any management-related activity."

The requirement that farmers secure free permits to cut listed trees on their holdings does in fact impose costs on farmers. Forest agents must be sought out by the farmer and often transported to the farmer's field to carry out the inspection. Lai and Khan (1986) observe that many people try to evade the permit exercise but, in the process, make themselves vulnerable to citation and payment of a fine for failing to secure a permit. There is no guarantee that farmers would be issued permits upon request. Forest agents we spoke to in the Fifth Region of Mali were generally disdainful of farmer-management ability. They were of the view that without their guidance, farmers would cut down trees before reaching maturity, would coppice trees improperly, and so forth. We also observed considerable uncertainty among forest agents about the Forest Code rules and regulations.

Looked at from the point of view of tenure, the permit-and-fine system is a case where the state is claiming certain rights over tree resources planted or tended by individual farmers. Exercise of use rights is shared with forest agents. This may reduce the ability of farmers to predict with confidence their returns to investment in forestry and agroforestry. Where regulatory practices are arbitrary and returns sufficiently uncertain, farmers will be disinclined to plant trees on their farms. The broad intent of other forest policies which seek to promote greater farmer interest in forestry may be defeated by a regulatory process put in place to "protect" trees that farmers are disinclined to plant given their severely attenuated rights.

At the same time, it is clear that the Forest Service in Mali (and forestry departments elsewhere in the Sahel) is very wedded to forest management through permits and fines--that is, through rule enforcement. There are several factors underlying current policy. First is the strong tradition of "protection" without regard to the impact of specific rules on farmer incentives to cultivate trees. This is based

in large part on a belief that peasants, if left to their own devices, would pursue practices that increased deforestation. Many forestry officials are of the view that the only thing standing in the way of massive deforestation is the Forest Code. (And in the absence of any alternative means of managing communal forests, this is probably true.) Finally, permits and fines are important sources of revenue for the Forest Service, and fines an important source of supplementary income for forest agents.

IV. Models for Innovation

This paper has identified the need for policy changes to promote greater farmer and community interest in natural resource management. Change can be implemented in a number of ways, and three possible models are discussed here: legislating national legal reform, using projects to develop and test promising reform models, and giving scope to community-based innovation in land-use planning and resource management.

Law Reform

Opportunities may arise or be sought by donors to alter national legislation. As of this writing (1989), several law-revision projects are already under way: reviews of Senegal's Forest Code, Mali's Pastoral Code, and Mauritania's Cooperative Law and an attempt to draft a comprehensive rural code for Niger. Dialogue on law reform is appropriate where there are successful prototypes for resource management and a need to strengthen the legal basis for them, or where particular legal provisions, such as those of the forest codes affecting on-farm forestry, are having undesirable effects.

There is, on the other hand, a need to be clear on the role of legal change in altering behavior. In most cases, legal change alone will accomplish little. For example, legal change giving farmers stronger rights over trees they have planted will have limited impact on behavior if forest guards are not reoriented and if clear information on legal changes is not communicated to farmers. Similarly, introduction of the full panoply of individual rights associated with freehold ownership is

likely not to produce the desired behavior without major investments in demarcation and survey of holdings, adjudication, recording and regular updating of rights, and creation of a registry system with strong probative value. Effective tenure reform imposes substantial costs, and so the issue becomes: Where can costs be reduced through reforms which may be less thoroughgoing but better targeted to key constraints?

Applied Research

Donors and Sahelian governments alike need to find opportunities to develop and test packages which combine legal change with incentive creation. Pilot projects and area-based projects will often offer such opportunities. National governments may be persuaded to suspend application of possibly counterproductive legal provisions in a project area in order to observe farmer reactions before implementing a reform nationally. For example, the Land Tenure Center is developing a research program with the Government of Mali and USAID to study the effects of controlled changes in the Forest Code on farmer investment in agroforestry in Mali's Fifth Region. Such projects constitute "action research," as they are applying and testing new models of tenure for their impacts on farmer behavior and resource management. This is an appropriate strategy where we lack ready models for institutional reform, as is often the case in the Sahel. Policy dialogue will be better informed where the results of "action research" are available to policymakers.

Participatory Land-Use Planning

A third model for innovation is the participatory model provided by World-Bank-sponsored efforts in Burkina Faso. On a pilot basis, ongoing projects funded by various donors have been reoriented to experiment with land-use planning by village-level land-use management committees. A central coordination unit provides an essentially evaluative role. While technicians work with villagers, no guidelines are provided. A remarkable range of approaches and techniques is emerging. In some areas, villagers have received the project with enthusiasm; in others, they have been indifferent or negative. In some communities, a conventional land-use planning approach is taken; in others, parcels are being mapped and use rights shown. The effort is a first phase of

a long-term effort aimed at the recreation of effective land-management institutions and styles.

V. Goals for Policy Dialogue

Goals for policy dialogue on improving common property management, tenure security, and forest codes are summarized below.

A. Common Property Management

Devolution of greater management control to local user groups is a broadly desirable policy goal. This will most likely be achieved where donors work closely with governments in developing and testing local management models. A certain amount of caution is advisable. Due to past policies and economic and social change, the institutional bases for local management are not very strong in much of West Africa. Some factors that might be borne in mind when charting a strategy include:

1. Common property management schemes must incorporate clear economic incentives for individual participation. The distribution of common property benefits in relation to individual labor and other contributions must be clear from the beginning.

2. Communities will welcome devolution of authority, particularly where it gives them preferential rights in relation to others. Planners must take care that the interests of those who might be denied access to local resources are compensated by resource rights elsewhere. The state will play an important and necessary role in adjudicating resource rights among groups.

3. The most effective management systems will emerge out of collaborative arrangements, where the state provides technical assistance and assists in the enforcement of rules agreed to by a credible local institution. The local institution would be principally responsible for planning local resource use, for establishing principles of access, and for distributing benefits. Several active projects provide good laboratories for developing working models. Their implications to national policies need to be drawn out more explicitly.

B. Tenure Security

The aim of policy dialogue at the national level should be to encourage states to support policies that extend clearer and less ambiguous individual rights to farmers. Sources of insecurity should be identified and substantiated. Local situations are highly variable in this regard.

Policy dialogue on land tenure is fraught with pitfalls, many of which relate to the two partners in the dialogue--governments and donors--having very different perceptions of the nature of the problems. It has been the experience at the Land Tenure Center that sensitive tenure issues can be productively approached when the government and the donor embark on a mutual learning process, through applied research, in which they develop a shared understanding of the tenure system and its effects on the achievement of desirable policy goals.

The following questions provide a framework for action research and policy dialogue.

1. What are the individual farmer's land rights in relation to the community and the state? Are the farmer's long-term rights in fact insecure? What are the specific tenure issues giving rise to insecurity?

2. Are there factors other than tenure preventing farmers from investing in new technologies or practices? If nontenure factors become less constraining, will tenure constrain adoption, or might tenure rules themselves adjust?

3. What are the options for enhancing security, taking into account the whole array of costs associated with any given strategy? Achieving tenure change is not a matter of simply changing land law. Land titling and registration systems based on Western models require establishment of costly administrative machineries, which would place severe strains on most West African budgets.

Practical and cost-effective policy changes could emerge out of such a process. These could include such things as reforms which extend greater rights to women, stranger farmers, or others; measures for protecting landholders against arbitrary action by state or customary land authorities; procedures facilitating and sanctioning new forms of

land transaction, including sales; or reforms which codify in statutory law protections of customary systems, particularly those governing access to resources.

At least as important as particular reforms, however, are the processes by which customary legal norms evolve to meet new needs. Policy dialogue and applied research should encompass dispute-settlement institutions and styles. The manner in which disputes over land and other resources are resolved will affect the emergence of greater tenure security and increased ability of farmers to innovate and invest. To the extent that these mechanisms promote change, as for instance the development of "family land" law in Anglophone West Africa, legislative intervention will be less needed.

C. Forest Codes

There is great scope for policy reform in this area, particularly in reducing the disincentive effects of certain provisions of the forest code on farmer investment in farm forestry.

1. Tenure reforms must be part of a larger policy-reform package, which shifts the orientation of the forest service away from policing and toward management and sustained utilization. This will involve such things as retraining forest agents and financial reforms that reduce reliance upon permits and fines for departmental income and forest-agent income. Long-term donor commitment and support will be decisive in helping departments make the necessary changes.

2. Technical packages must be sound and based on an understanding of farming-system limits and producer needs. Once again, tenure may not be the only constraint to farmer investment in forestry. Agroforestry packages for dryland-farming systems are still under development.

3. Dialogue should focus on specific features of codes which inhibit farm-level investment in forestry and agroforestry rather than on wholesale code revision. In the absence of proven models of local management, it would be premature to argue in favor of suspension of code enforcement in communal forests.

4. Governments and forestry departments will be suspicious of proposed reforms which reduce the ability of the state to intervene on behalf of resource protection. The dialogue process will benefit where

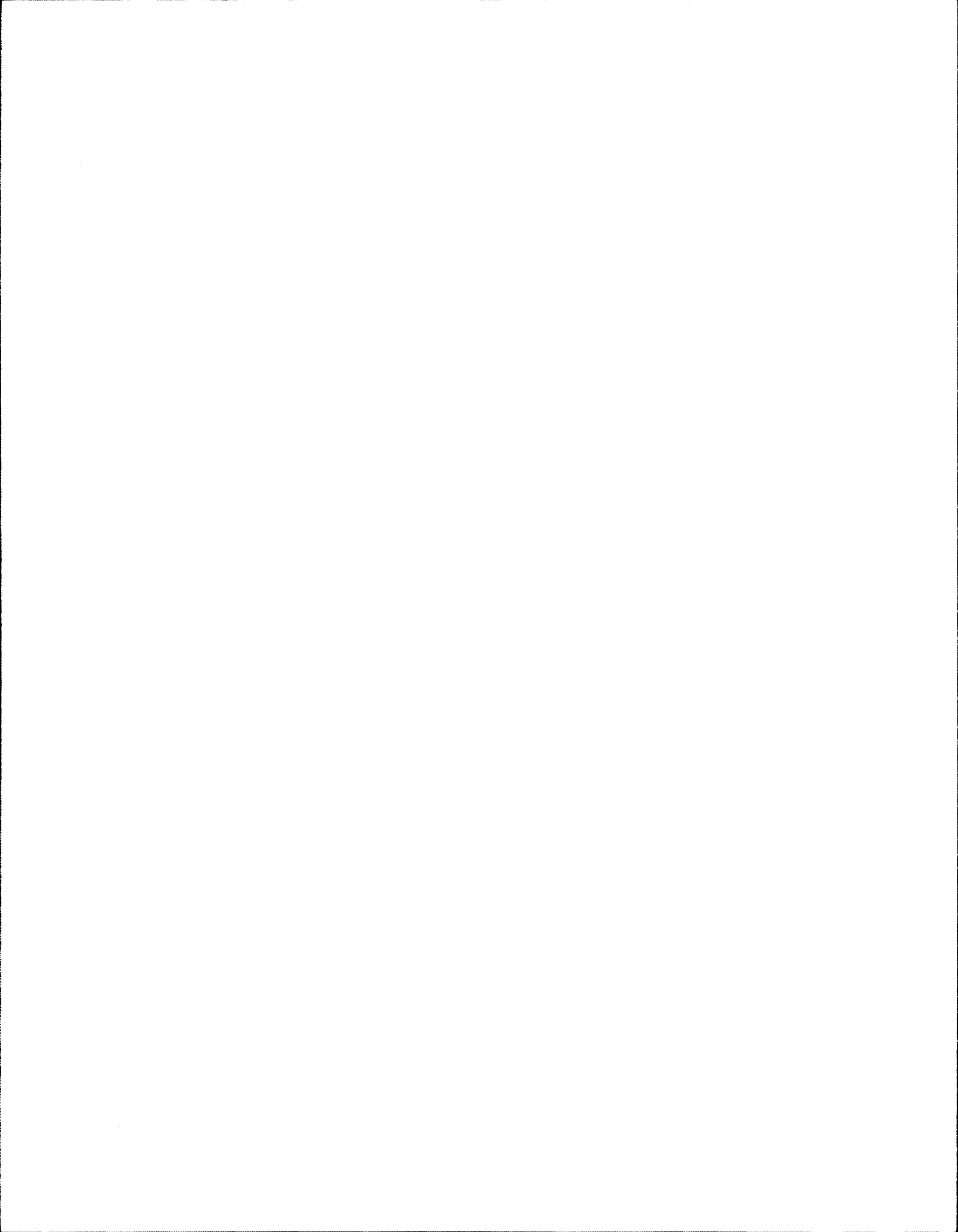
empirical evidence supports the position that greater farmer investment in tree planting will result where farmers have greater direct control over their trees. Applied research carried out in the right settings can provide governments with assurance about the outcomes of policy changes.

D. Reform Initiatives and Processes

1. Reform in national legislation can be an effective approach, so long as it is appreciated that supplementary measures with real costs need to accompany legal change to make it effective. Such change is appropriate when working models of institutional innovation which have proved themselves need legal reinforcement or when specific detrimental legal provisions are identified, as in the case of certain forest-code provisions.

2. Project initiatives provide opportunities to conduct experiments, altering rules and incentives and testing new institutional models. This type of experimentation is especially needed for development of successful common-property management models and models for limited community use of state-owned resources.

3. Models for village-based land-use planning and recording of use rights need to be tested. These are useful steps toward recognition of greater private rights in land for both individuals and groups. Experiments with such models are needed both to test felt needs of local communities and to develop "appropriate technology" land administration for low-value land in the Sahel, where it would be too costly to introduce formal cadastre and land-registration processes.



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