

# Community forestry rapid appraisal of tree and land tenure

COMMUNITY FORESTRY NOTE 5

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# PREFACE

The FAO/SIDA Forests, Trees and People Programme, coordinated within FAO by the Community Forestry Office, is focused on strengthening the approaches, methods and tools to help forest services, activity managers and rural leaders support and strengthen the effectiveness of the management role and the benefits rural people have in relation to their forest and tree resources. In selecting topics which should be examined within this focus, tenure was considered a central issue which must be addressed.

The failure to clearly understand existing rights in land and trees has been a common cause of failure in community forestry projects. Individual incentives are as a result often misjudged, and the benefits of projects are distributed quite differently than intended. For the designers of a forestry initiative, the existing system of tenure in land and trees is almost, if not quite, a given.

Can we understand systems of tenure through rapid appraisal? Not thoroughly of course, but can we understand enough to make the effort worthwhile? As in all rapid appraisal, the need is for a certain amount of structure and discipline in inquiry which can save us from gross subjectivity and tunnel vision.

Dr. John Bruce, Director of the Land Tenure Center, University of Wisconsin, Madison, Wisconsin, was asked to develop a framework for more effective analysis and design of community forestry activities. The task is inherently difficult because in grappling with tenure one moves beyond the readily observable into the realm of values and norms. The framework adopted here is to first consider tenure issues within three broad tenure types (the holding, the commons and the reserve), and then examine, from the point of view of the household, the opportunities for tree planting and use under each of the three types of tenure. While there are obviously limits to how far one can go with such issues in rapid appraisal, it should be possible to significantly reduce tenure-related design problems in projects through the procedures suggested here. If the issues raised cannot be adequately explored during rapid appraisal, they can be flagged for further investigation.

Dr. Bruce's document has been reviewed both within the Forestry Department and the Economic and Social Policy Department as well as by an-Expert Consultative Group and judged to be of highest quality. It is, however, a new approach. It is therefore being produced first in draft in order that some experience can be gained in different locations to assess how it may need to be modified to fit specific sites. It is hoped that a number of readers will have a chance to try this framework and comment so that the document may be finalized with any modifications required. Comments should be addressed to:

The Community Forestry Officer  
Policy and Planning Service  
Forestry Department, FAO  
Via delle Terme di Caracalla  
00100 Rome, Italy

# **1. INTRODUCTION: TREES AND TENURE**

## **WHAT IS TENURE?**

Tenure is a matter of "rights," the rights which are held in land and trees. The study of tenure is the examination of the nature of those rights, their origins, their operation and how they relate to a multitude of other matters, including the planting and conservation of trees.

As we begin, let us be clear on some terms. By "tenure" is meant the set of rights which a person or some private or public entity holds in land or trees. A "tenure" is a "bundle of rights." Particular combinations or "bundles" of rights in resources are recognized by law and custom in particular societies. The people affected will have a name for recognized tenures: "ownership" or "usufruct" are examples of Western tenures. Some tenures consist of a fairly clearly prescribed bundle of rights but the content of others, "leasehold" for instance, can be determined to a large extent by contract between the parties. A "tenure system" is the set of tenures in a given society. There are usually several different tenures in a tenure system, for different land uses or types of users, but they should constitute a coherent system, complementing one another. So we speak of the "land tenure system" of the Naga (which would be the land tenure system of that group, including effective elements of national law) or the "land tenure system" of India, which would include national land law and the tenures it recognizes plus all the particular local tenure systems.

Tenure comes in a bewildering diversity of forms. Some Third World farmers are using land or trees under "freehold," "leasehold" and other tenures from Western law, but many others cultivate under indigenous land tenure systems. These systems, though there are "family resemblances" among some of them, have evolved to meet specific needs of particular peoples, in specific environments and using certain technologies. They are so diverse as to make generalization difficult. Today, national land legislation often seeks--not necessarily successfully--to homogenize tenure, overriding local, particularistic tenure systems.

That tenure in land and trees affects tree planting and conservation is not new knowledge: it has long been a part of the folk consciousness of farmers throughout the world. An old English epigram says that "oaks scorn to grow except on free land," suggesting that holders of land under insecure or servile tenures did not plant oaks, a slow-maturing hardwood. But the impact of tenure on tree planting and conservation will vary from case to case. It will vary depending on the nature of the tenure arrangements, and on a wide variety of other factors. Tenure is after all only one factor affecting tree planting, and its importance relative to other factors will vary from one situation to the next. To state the obvious, no tenure arrangement will encourage farmers to plant trees for whose products there is no need, or plant trees where rainfall cannot sustain them.

## THREE TYPES OF TENURE NICHE

This diversity in tenure systems prevents easy generalization about tenure and its impact on trees, but it does not rule out the development of broadly relevant lines of inquiry for rapid appraisal. We can identify three broad types of tenure situation (or tenure "niche") which tend to be closely related in practice to particular management arrangements and ecological niches. Rocheleau uses the term "socio-ecological niche" for a similar but slightly broader concept (Rocheleau 1988). These types of tenure niche can structure our discussion:

**THE AGRICULTURAL HOLDING.** The majority of farm units in most countries consist of individual or household farming operations. Tree planting on these holdings takes a variety of forms: monocropping, alley-cropping, windbreaks, etc. Here the key tenure issue is thought to be the extent to which the farmer has the security of tenure needed to invest in trees. Trees are slow-maturing and so constitute a long-term investment. Their costs, including opportunity costs, may not begin to be recovered for some years, and complete recovery will require a long period. The farmer will want to be sure he or she can hold onto the trees until those costs can be recovered; there is a need for secure tenure.

**THE COMMONS.** A communal forest or a village woodlot is a "commons." Tenure and management are vested in a community, and the critical issue is the effectiveness of community resource management. The community may be a lineage, a village, an age-set, a religious group, or a cooperative. In the classic commons the members have rights to utilize land or trees concurrently or sequentially as individual producers. But unlike the holding, no user has the right to exclude others. The group does have the right, however, to exclude non-members from the use of the resource. Common property situations may involve broader or narrower rights of exclusion by the community and greater and lesser effectiveness in the exercise of those rights.

**THE GOVERNMENT FOREST RESERVE.** Units of government (national, regional or local) may own forests and seek to protect forest resources. The forest may be a natural forest, sheltering biological resources and genetic diversity of great value. Or it may be managed for commercial production, with areas periodically cut and replanted. Governments have asserted the need to create reserves to protect forest from non-sustainable use in free access or ill-controlled commons situations. While exclusion of farmers is the critical concern in creation of reserves, ineffective control by the state means that use sometimes continues on a furtive or even open basis.

Is this all a part of what we call community forestry? For instance, agroforestry is currently attracting a preponderance of attention in forestry project design. Agroforestry is the integration of trees into a farming system, with growing of food and other crops, animal husbandry and other agricultural activities. Agroforestry has generally been associated with the agricultural holding. Is agroforestry community forestry? First, agroforestry can occur on the commons, as when a communal forest is used for livestock grazing, or in the state forest reserve, as when taungya farmers grow food crops among

seedlings. Second, when it is practiced on a holding, it is still community forestry in an important sense: the community creates the framework of law and custom which gives the holder tenure in the land and trees and creates the mechanisms which protect tenure.

Even more important for present purposes, in project design it is impossible--or at least very unwise--to consider tree planting on the agricultural holding in isolation. This is because the household which is making decisions about trees on the holding is involved in a farming system which overflows the holding into the commons and sometimes into the forest reserve. The household's decisions about trees are made in terms of its overall access to tree products, whether on or off the holding.

The household may have tenure in all these situations. The tenure will be most extensive and exclusive over the agricultural holding but the household may also have use rights in a communal forest as a member of a village or clan and may have a right, for instance, by license from the state or by accepted custom, to gather forest products from a forest reserve. A household's options concerning trees in any one of these situations cannot be defined in isolation--they all constitute part of the farming system. A strategy for adoption of new forestry practices by households is the key component in design of a community forestry initiative.

This paper utilizes the three management situations--the holding, the commons and the reserve--because one can ask a set of broadly relevant tenure questions about each situation. But it will also repeatedly return to the perspective of the farm household, which is involved in all three situations and must think about all of them together.

## **TREE TENURE**

There is a need for one more concept about tenure before looking at the role it plays in projects and project design. The concept is "tree tenure," as opposed to land tenure, and the term has come into general use only within the last few years.

People who have been exposed only to the more familiar forms of western property law often assume that trees are part and parcel of the land on which they grow. They are "fixtures," and like buildings are assumed to be owned by whoever owns the land. But, in fact, trees can like minerals and water be an object of property rights separable from the land on which they are located. That there can be rights in trees is obvious to anyone who has witnessed the Japanese transplanting a twenty foot tree carefully wrapped in rice straw or the wholesale movement of twenty-five foot palm trees from a nursery to a California subdivision. These are examples in which the trees have been severed from the land, but many tenure systems confer property rights in standing trees quite distinct from the land on which they stand.

A tree tenure regime can be complicated, drawing important distinctions on several bases, as is indicated by the following excerpt from Obi on classification of economic trees under Ibo customary law. A tree tenure regime may distinguish between planted trees and wild trees. Even where the ownership of land is one determinant of ownership of the tree,

the species of tree may be subject to particular tree tenure rules which affect the outcome. Rights to use trees' products may also depend upon the nature of the use, for instance whether the produce is taken for personal or commercial use. Rights in a tree may be distributed among several individuals, often according to provision of labor and other productive factors.

Tree tenure is a system of property rights every bit as variable as land tenure, mineral rights or water rights. Tree tenure is not some bizarre phenomenon found in out of the way places, and it should no longer be treated as an exception. Questions about rights in trees must be asked together with those about rights in land, and the relationship between the rights understood. We are only beginning to understand the potential of rights in trees as development tools. They provided West African commercial cocoa farmers with liquidity for a wide variety of purposes, allowing their trees to serve as security for loans since they could not legally mortgage their customary tenure holdings (Adegboye 1969). Where there are weak individual rights in land, whether because shifting cultivation is still practiced or for other reasons, tree tenure may provide the requisite security of expectation. Similarly, where some class of individuals is disadvantaged in terms of land rights--for example, women who hold land only as their husbands' wives--tree tenure may provide the necessary incentive through security of tenure in the trees themselves. And in socialist states, where nationalization of land may have diluted farmers' incentives to plant trees, perhaps tree tenure can provide the needed security and incentives. If we focus on tree tenure as well as land tenure, we will be more likely to discern such potentials and, eventually, to better gauge their effectiveness. We will also notice problems of tree tenure. Louise Fortmann has stressed importance of tree tenure in agroforestry initiatives, and she suggests a classification of tree tenure issues in the excerpt which follows.

## **Customary Rights in Economic Trees Among the Ibo of Nigeria**

One or two general principles stand out clearly in connection with rights and interests over economic trees. . . .

1. If economic trees are self-sown they belong to the owner or owners of the soil on which they grow. But if they are planted by man, they are the property of the person who planted them. It makes no difference on whose land they were planted. Nor is it material that the permission of the landowner was not obtained before the planting was done, bad faith apart. . . .

Economic trees growing wild on communal reserve land . . . are the joint property of all eligible members of the landowning group. The individual's rights therein are limited to freedom to act in common with others in accordance with recognized rules pertaining to harvesting and appropriation of the produce. These rules vary from place to place. . . .

Economic trees growing wild on communal farmland [belong to] the individual who actually farms the area around a given tree. . . . This rule probably had its origin in the desire to prevent damage to crops by one member exercising his right of entry among another member's growing crops. . . .

2. Sale or other transfer of land does not necessarily carry with it any rights or interests in economic trees growing thereon. Thus in the absence of express agreement to the contrary, the vendor, pledger or lessor of land retains full rights over all economic plants on it, including the right to go on the land in question for the purpose of enjoying these rights, e.g., harvesting the year's crops. Similarly, on apportionment of communal, or family land, the trees remain in common ownership, unless and until arrangements are made for their distribution.

S.N. Chinwuba Obi, "Rights in Economic Trees," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. Louise Fortmann and John W. Bruce (Boulder: Westview Press, 1988), at pp. 34-38.

## Tree Tenure and Agroforestry Projects

In any agroforestry system tree tenure issues must be carefully examined to avoid the following problems.

1. The loss of rights may result from an agroforestry project as a consequence of a number of factors:

a. The project may disturb or destroy rights to other uses of the land or the trees on it . . .

b. Certain practices for cultivating and protecting trees may result in the loss of gathering rights.

c. When the value of trees is increased there is a tendency for both land and tree tenure to shift from communal to private holdings . . .

2. The protection of the trees can be a problem. The ability to exclude others from the use of trees and tree products is essential if tree planters are to reap the benefit of their investment. . . . While one may have a legal right to prevent others from using resources including trees, in communities based on a system of reciprocal rights and obligations this is often very difficult to do. The personal or institutional capacity to enforce exclusionary rights may be very small indeed. . . .

3. Certain categories of users may be unable to participate in the project because they do not have the right to plant or own trees. This is likely to be true of the landless, those with temporary claims to land, and women. In many places, these three categories singly or in combination will comprise the majority of the population. Thus, a project which does not take this into account may end up serving a relatively advantaged minority of the population, or such a project may be destroyed by those who are excluded from it.

4. Because trees can be used to establish rights to land, it is necessary to monitor who is planting project trees where. Agroforestry projects can be used by private individuals to establish private claims to communal land. Similarly, it is necessary to ensure that the community accepts the planting of trees on community land for otherwise disenfranchised people.

Louise Fortmann, "The Tree Tenure Factor in Agroforestry with Particular Reference to Africa," *Agroforestry Systems* 2 (1985), at pp. 240-243.



## 2. TENURE PROBLEMS AND OPPORTUNITIES IN TREE PROJECTS

Exhaustive analysis of tenure institutions is not the job of rapid appraisal. It is rather to notice problems and/or opportunities. Whether certain facets of the tenure system are seen as posing problems or opportunities tends to depend upon how far the process of project planning has proceeded and how committed the planners are to a particular technology and a mode of introducing it. (One never introduces a technology alone; technologies carry with them a great deal of baggage in terms of institutional needs for their introduction and maintenance.) If the project idea is still relatively flexible, it can be reworked to mesh with the local tenure situation. But a mismatch between the project idea and the local situation is often not noted until the project is underway. Then there is said to be a "tenure problem," though it might better be characterized as bad project design.

How do mistakes about tenure create problems for projects? First, project design may neglect social and institutional constraints which prevent farmers from responding to the tree-planting opportunities provided by the project. The International Livestock Center for Africa's Small Ruminants Program in Nigeria found that in on-farm trials in the south-east of the country, existing use and tenure patterns created community opposition to tree-planting. An excerpt from the report by Francis follows. The planting would have interfered community control of land use. Households had been assumed to have more exclusive control of their holdings than was in fact the case.

Where customary tenure rules permit tree planting, the tenure system may still have an impact on incentives for tree planting. When farmers cannot have the use of the trees they plant, they are not likely to do a good job, even if short-term incentives are provided. Thomas (1964) found that peasants employed with "food-for-work" to plant trees in land where they had no rights responded by planting the trees upside down, roots in the air. A miscalculation of incentives may also occur when there is too narrow a focus on the particular land area on which the project encourages the farmer to plant trees. For instance, a project design will overestimate farmer incentives to introduce trees into the pattern of cultivation on the holding if it overlooks household rights of access to free wood from commons and reserve areas.

In addition, project design sometimes misidentifies beneficiaries of tree planting or may even lead to their displacement due to misunderstanding of tenure situations. A community forestry project in Pakistan which had aimed to plant on the commons as a means of spreading benefits throughout the community discovered that in fact influential families in the community had established effective control over large areas of the commons and were the ones who benefited from the project (Cernea 1981). Planting trees may increase dangers of displacement because a powerful neighbor or a traditional land administrator may seek to take the trees and the land with them. In Swaziland, for instance, even a few fruit trees may attract the wrong kind of attention, as related in the excerpt from Flory which follows. An insecurity of tenure which did not matter much

before became critical when trees were planted. Where such risks are obvious, incentives to plant will be affected.

There are also situations in which tree planting will work to the disadvantage of some residents. There are often losers as well as winners in these projects. While such side-effects may not affect the cost-benefit analysis of a project which focuses only on the participant-beneficiaries, from a broader societal point of view that analysis is affected. Tree planting is generally an intensification of use which, in a situation of serial or simultaneous uses by different users, may exclude the other users of the land. For example, alley-cropping may require fencing to prevent uncontrolled browsing on young trees and may thereby exclude a traditional practice of grazing of fallow holdings as commons. At the household level, for example, if men in a particular culture are regarded as owning and managing a particular species of trees, introduction of these trees onto plots managed by wives may shift management rights over the parcel and income from the parcel to men. Women, the "invisible farmers," are often particularly vulnerable, as are very poor or peripetatic users. After the main uses of particular land and trees have been established, the question must be asked: "Is there anyone else who uses this land or these trees, even occasionally?"

These are recurring tenure "problems" in community forestry projects, problems which originate in the failure to adequately take tenure patterns into account in project design. How can we increase the chances they will be perceived during a rapid appraisal? This paper goes on to suggest promising methods and angles of approach for appraisal of tenure systems, then examines particular tenure issues associated with the three basic types of tenure niches discussed earlier, the holding, the commons and the reserve.

## **Tenure "Problems" in On-Farm Trials of Browse Trees in Southeast Nigeria**

Mgbakwu consists of a group of six villages each of which in turn is comprised of a number of lineage segments (umunna, commonly translated as "families") who trace their descent from a common ancestor in the male line. These units control land, which is allocated by them annually to member households and which reverts to them at the end of a cropping cycle. Any land in excess of the families' requirements is rented out on a short term basis to tenants, who are usually members of other local umunna whose own land is insufficient.

At Okwe, the unit of ownership of land is the individual, rather than the lineage, but common control over its exploitation is in part vested in a residential group, the village (there are six constituent villages in the Okwe project area). The boundaries of village lands are well defined and it is said to be jointly decided by senior members of the village which sector of land is to be worked in any year. Villagers who do not hold land in this sector, even if they hold land elsewhere are expected to hire from those who do. Oil palms in Okwe are also jointly managed by the village, days being set on which those subscribing to a village-based fund may cut palm fruit from the communal trees.

For the present purposes, these two rather different systems for the control and allocation of land both tend to reinforce the seeming reluctance to engage in alley farming noted above. Under the Okwe system, although individuals own land, they are regularly compelled to rent other land by the system of joint management just described. While involved in temporary (and somewhat expensive) lease arrangements they will have little incentive to devote their labor to improving the future fertility of the land. Under the Mgbakwu system both tenants and members of land allocating families hold only temporary usufruct rights over land, and there would be a similar lack of incentive to invest in soil fertility.

Furthermore, under both the Okwe and the Mgbakwu systems of tenure, the extension of the cropping cycle by individuals would throw them out of phase with the pattern of rotation set by the village or the umunna, respectively, and thus lay them open both to the censure of other members of these groups and to the greater risk of animal pests attacking their crops when farming in isolation.

Paul Francis, "Land Tenure Systems and the Adoption of Alley Farming in Southern Nigeria," in *Land, Trees and Tenure*, ed. John B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 177-179.

## **Security of Tenure for Commercial Farmers on Swazi Nation Land**

One feature attributed to the traditional land tenure system in Swaziland is the lack of secure tenure. The chief has the power to allocate land but he also has the power to take it away. It has commonly been reported that a farmer who works hard and becomes successful through farming is a target for community jealousy and a potential candidate for banishment. According to this way of thinking, initiative, competitiveness and striving to get ahead are not socially acceptable qualities. When a person rises above the rest he is thought to be making himself too important or trying to be like a chief and his success may be attributed not to hard work, but witchcraft. The outcome of all this is that an advanced farmer may feel pressure not to rise above the crowd or work too hard for fear of community ill will and increasing the danger of banishment.

. . [It has been noted that] banishment does not have to occur frequently. The threat of banishment is an effective tool to enforce conformity to locally approved social norms.

. . . [O]ne case of [12 reported banishments in this study] turned out to be a classic case of a successful farmer being accused of witchcraft and banished. One of the advanced farmers recounted the following story:

"A man was very successful at farming and grew many

mangoes. He was also a priest in a revivalist church. Some other priests were jealous of his success as a preacher and went to the chief and accused the man of bewitching them. The chief, who coveted the mango trees, went to Prince Mfanasibili and got authority to banish the man. Now the chief is eating the mangoes."

Bruce E. Flory, "Constraints to Commercial Agriculture on Swazi Nation Land: A Summary of Swaziland's Advanced Farmers," Report to the Ministry of Agriculture and Cooperatives (Madison: Land Tenure Center, 1987), at pp. 15-18.

### **3. PREPARING FOR THE RAPID APPRAISAL**

This is a vitally important stage of a rapid appraisal, and it is usually poorly done. "Rapid" refers to the field operation; it should not apply to the preparations. The appraisal should be scheduled several months in advance and someone, a consultant or a forestry department staff member, should be responsible (and paid) to ensure that the pre-fieldwork information gathering is done well. This can greatly enhance the quality of the appraisal.

#### ***SELECTION OF THE APPRAISAL AREA: TENURIAL REPRESENTATIVENESS***

A rapid appraisal is necessarily confined to an area which can be covered in a few weeks' time, and is hopefully representative. The appraisal area may be as small as a few square miles around a community already selected as a pilot area, or may range over a hundred square miles. Sometimes one of the purposes of the exercise is to select a site to initiate project activities. In this case, one wants to avoid doing the appraisal in an unusual and localized situation as representative of the proposed project area. In a community forestry appraisal, this usually means representative of a particular ecological or agro-climatic zone which has been proposed for a community forestry initiative. But tenure is also a factor to be considered in seeking "representativeness." Is the tenure system in a proposed appraisal area representative of the proposed project area? Generally, if the area is ethnically uniform, and a fairly standard farming system prevails throughout, the chances increase that tenure arrangements are reasonably uniform over the area. But if there are different ethnic groups within the project area, the operating assumption must be that the tenure systems are different in important ways. Tenure systems are a product of culture as well as ecology, and the appraisal effort should touch on each ethnic area. Similarly, if there are different farming systems within an otherwise uniform project area, these differences may have given rise to different tenure phenomena. Even in an apparently uniform area, access to a market may, for example, have a diversifying effect by causing land near to markets to be treated differently. This variation can be captured by focusing the assessment on a strip beginning near the decisive factor in market access in the particular case, which may be a town or a market road or a line of rail, and running into progressively more remote areas. The issues are most easily handled in relatively small forestry projects, such as those often implemented by NGOs. They become more difficult to address adequately in a geographically extensive program covering several provinces, such as FAO might administer. In the latter case, even discovering all the diversity within the project area is daunting, and the issues raised here must be explored in a sample of particular communities.

In some circumstances a typical tenure situation is extremely difficult to obtain. Although it is unusual, important tenure variations can in some cases occur from one village to the next, owing to differences in time of settlement (e.g., one clan settled relatively recently on land of a neighboring clan and holding subsidiary rights) or because of an uneven adoption of a system of religious law, or because some local communities have

"legislated" to address new problems or needs. It is possible only to be aware of these variations, and to begin by never assuming uniformity.

## **POTENTIAL SOURCES OF INFORMATION ON TENURE SYSTEMS**

For purposes of discussion let us assume there is one relatively uniform tenure system for the appraisal area. The returns to a review of written materials on the tenure system can be tremendous, but tend to be uneven because the literature is so uneven. Bohannan wrote some decades ago that no topic had produced so large a poor literature as land tenure. This is a very broad claim, but the literature on land tenure in developing countries is in fact very uneven. While one may find specific references to rights in trees in the literature--and gems such as T.A. Leach's 1919 study of rights in date trees along the Nile in northern Sudan (an excerpt is provided)--this is usually not the case. Usually a solid anthropological or ethnographic description of the tenure system--if such exists--is the place to start. How old a reference can still be useful? It depends a good deal upon the quality of the work. Some classics have worn very well, but "custom" does evolve and if important changes in the economy and society of the area have been taking place, anything more than ten years old should be treated with some caution. Of course no source should be accepted uncritically, without verification in the field. But if such sources are available it will give the team a valuable head start and permit some drafting of question schedules before going into the field.

Previous project reports for the area may also be helpful, though these tend to be hard to obtain. It is increasingly rare that a rapid appraisal team is the first project design activity in the area. Dusty reports on unrealized projects often lie forgotten on the bookshelves of the concerned ministries. In some cases, a persistent ministry or planning unit may be trying the project idea out on a second or third donor, and very recent and relevant reports from other donors may be available. These should be assembled in advance by the local agency which is putting together or has requested the rapid appraisal.

## **NATIONAL LAW AND REALITY**

There is often a considerable distance between what national law suggests exists and the situation on the ground. The excerpt which follows from a paper on tenure issues in project design by Noronha and Lethem stresses this point. Many national land laws in the Third World have had impacts quite different from those envisaged by their draftors. Alternatively, they may have little reality beyond the pages of the legal supplement to the official gazette. This is most often a result of overreaching: an assertion of rights over land by the state which the state is not strong enough to implement, leaving local custom in control but with reduced authority. Sometimes a third system of law, such as Islamic law, is also in play. Such normative confusion may provide opportunities for innovation, or simply insecurity. The problem created by conflicting legal regimes was recently stressed in the report of a working group on agroforestry and tenure in Asia, an excerpt from which follows.

It is nonetheless important to be aware of the basic provisions of relevant national laws. These would include the basic property law, land registration legislation, and the forestry code. First, in spite of what has been said above, they may have some impacts in the area, especially if it is near a major urban center or has previously been a focus of development efforts. Many countries have enacted tenure reforms which affect rights in land and trees since the 1960s, and these reforms may be underway or soon to be introduced into the project area. The project may indeed attract the attention of those implementing reforms to the project area. The provisions may have partial effect, or may have entirely unanticipated effects as individuals or groups utilize their provisions for purposes quite different from those intended by the legislative draftors. They often affect different groups in the society quite differently. For instance, Brokensha and Riley (1987) found that privatization of land in Mberere, Kenya, encouraged larger landholders to plant trees on their holding but had little impact on those who did not have enough land to spare from crop production to do so. Second, even if these laws are not very effective, they are the law of the land and local officials and agents of relevant ministries and agencies must attempt to abide by them or at least minimize inconsistency with them. Decisions in project design do not take place in a vacuum but are bounded by previous policy choices. See the excerpt which follows from the report of a working group on agroforestry project design.

The forestry code is a piece of legislation which deserves careful review before going into the field. These often contain specific provisions which affect rights to use trees:., In some countries these provisions are enthusiastically enforced by' the Forestry Department, especially where fines for violations of code 'rovisions go to support the operation of the Department. Before going into the field, discuss with Forestry Department staff, donors, and project staff the impact of particular code provisions.

There is one activity in which community forestry programs quite often come into contact with national land law, that of operating nurseries. While this is an enterprise which affects a relatively small area of land, it can be important. The project may wish to break an area of land out of the local land tenure system to create a nursery. It may attempt to achieve this through a lease from the chief or some other familiar western property form which may have little precedent in local customary law. The objective is generally to ensure a secure tenure status for the nursery, but it is not at all clear that this is necessary in every case. This is an issue for investigation during the appraisal and is tied to the extent of technical needs for scale, investments in water sources, etc. Where such a need is felt to exist, customary law will only occasionally provide an appropriate vehicle and it may be necessary to resort to national law. It may be a matter of the government acquiring land by either purchase or eminent domain, or of a private contractor, private voluntary organization or other private agency attempting to purchase or lease the area for the nursery. A purchase or a lease of land under customary tenure may, however, turn out to be illegal.

Often complete legal certainty in such cases is impossible. It will sometimes be better to resist the temptation to achieve an illusion of security by imposing a familiar western legal form, even if national law permits this. A carefully negotiated arrangement in

writing, upon which a consensus has been reached among those affected and which is signed by local land administrators, is more likely to be durable. Of course the arrangement should be permissible under national law. Local legal advice should be taken.



## Multiple Ownership of Date-Trees in Halfa Province, Sudan

The question naturally arises. "How can a date-tree be divided up into parts? Or what is the use to a man of owning (say)  $3/16$  of an indivisible entity like a date-tree?"

The explanation is simple. The principle comes into practical application only when the crop is gathered, and it is the fruit that is divided up each year among the several owners. . . . [T]he division is probably into three heaps representing the three equal shares of the original owners. One of these thirds is possibly owned now by several heirs of the original owner, and it may be necessary to divide this heap into elevenths. . . .

The question next arises how did this complicated system of division arise? Why does a man not plant a tree for himself and keep it as his own, at any rate until he dies? . . .

The classical method of planting a date-tree is as follows: A obtains shoot and plants it; B in whose land it is planted receives  $1/3$  of it; C who waters it (in its early years when it would otherwise never survive till maturity)  $1/3$ , leaving A himself with  $1/3$  only. B (the land-owner) is of course, where every "sagia" or plot of land is owned by several partners, frequently not a single individual but may represent all of the owners of a "sagia." In that case B's  $1/3$  has to be subdivided among all the partners in proportion to the shares of each in the land.

To return now to our original shoot which was planted by A on land owned by B and watered by C, we should have little difficulty recognizing it at any time and tracing its history however much subdivided if it only remained single. But the trouble is that when it grows up it becomes the 'mother of a clump (Arabic bura or hufra). The small shoots which start from its root are seldom cut off by the (indigenous] grower who is more interested in the possession of a large number of trees than in proper palm-culture. In this way one original shoot may grow into a clump consisting of anything up to ten trees, and the clump is always identical as to ownership with the original mother tree. The number of trees in a clump perpetually varies as additional young trees come on, or older trees die off . . .

However, when all is said and done, it must be remembered that the system practically insures against entire loss of crop by spreading the risks and that the [people] do not-feel the inconvenience of the divisions to any great extent, since they are mainly concerned only with the distribution of dates . . .

T.A. Leach, "Date-Trees in Halfa Province," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. Louise Fortmann and John W. Bruce (Boulder: Westview Press, 1988), at pp. 44-47.

## **Formal Land Law and Reality in Project Design**

There is often no relationship between formal legislation and what actually takes place "on the ground."

Project designers are concerned more with actual patterns of behavior than with theory. For example, in Haiti, although under the Napoleonic Code, all heirs inherit land equally; in practice, given land and demographic pressures, sons are given pre-inheritance access to land; daughters are not. The result is that daughters only derive minimal benefits as heirs for, when they do inherit the land, it is usually occupied by tenants and sharecroppers; they cannot obtain possession and can only claim their share of the crop as landlords.. Again, in Syria, although in theory a female is entitled, under Islamic law, to half the share which a male is entitled to on inheritance, "this provision is not frequently adhered to in practice. Instead, male family members take over the inheritance as compensation for the support of a sister." This practice is fairly common in areas where the Islamic Code applies. Among the Shona of Zimbabwe, the Land Husbandry Act was passed to prevent fragmentation and govern inheritance. But, given the considerable kinship obligations among the Shona, where one piece of land "might belong in the eyes of the Administration to one man, several families were found living on it, each working a plot. Where in law, one man has the right to inherit the land from his father, in practice the disinherited sons are allowed to continue living on the land as though there had never been a will." When registration of titles is made compulsory, as in Desmay (Trinidad), many settlers did not obtain legal titles. In fact, "even when they had obtained such titles, their descendants did not register subsequent changes in ownership. Even in 1972, many land taxes were paid in the name of the original owner." Registration by itself is, therefore, no conclusive indication of what is actually taking place on the land for a project designer who must investigate the situation. Again, in Mubi (Gongola State, Nigeria), although one of the aims of the Local Government Reform Act, 1976, was to destroy the power of traditional governments and strip the Fulani ardo (chief) of his power, in the eyes of most of the local population the traditional system continues to retain its power and exists as a de facto political authority.

Raymond Noronha and Francis J. Lethem, "Traditional Land Tenures and Land Use Systems in the Design of Agricultural Projects," World Bank Staff Working Paper, no. 561 (Washington: World Bank, 1983), at pp. 2-3.

## **Integrating Customary Law and National Legal Systems**

The group felt it was important to integrate customary law, especially that involving traditional rights to forested lands, into the framework of national legal systems. Viewpoints on the primacy of one or the other system often seem irreconcilably different. The view of officials that peasants have been illegally occupying state lands without realizing it has a mirror image in the peasant view that the state has been illegally appropriating private peasant lands without realizing it.

Where formal laws have been changed, positive impacts on agroforestry can be noted. One example comes from the Philippines, where a forest-dwelling tribal group induced the government to recognize their stewardship of a part of the forest, and then developed a very successful system of agroforestry on their own initiative. In other examples, from Nepal, the granting of 99 year leases on state forest land gave erstwhile shifting cultivators sufficient incentive to actively participate in the successful rehabilitation of the land using agroforestry techniques.

Land reform and redistribution may be a desirable component of some agroforestry projects, but care must be taken to try to predict all of the possible consequences. In one case, again from Nepal, a land reform program stipulated that non-owners who worked a given piece of land for three years thereby acquired title to it. The apparently unanticipated consequence of this program was that landowners chose to leave fallow all land they could not work themselves. This intervention might have resulted in the extensive planting of low-labor tree crops, but instead in the rapid deterioration of terraces on unworked land.

The working group concluded this discussion with two suggestions: First, that a special national judicial agency should be established to deal with tenure problems arising from agroforestry development. And second, that government should stop using pejorative classifications (like "minority group" or "foreign tribes") in their dealings with forest dwelling nationals.

"Report of the Regional Working Group on Asia," in *Land, Trees and Tenure*, ed. John B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 345-346.

## **Social and Institutional Evolution in an Environment Bounded by Prior Policy Choices**

Most projects are the result of an extant approach to project design that has a life of its own, closely related to the career structures of those in the donor and government agencies. Each agency has its own development strategy that is a product of its own evolutionary history, and projects themselves have a life cycle that has little to do with the maturation rate of woody plants. At the international level, aid agencies may be mandated to work on a government-to-government basis and the very ministries with which they can deal may also be part of an inflexible mandate.

All of this indicates that the institutional and policy frameworks in which projects are formed are largely predetermined by past experience and are bounded by factors that are as much a part of the environment of a project as any physical or biological features of the area.

In regard to the tenure dimension of projects, the group agreed that the institutional and policy environment of a project will determine which categories of land are addressed by the project, i.e., household, community or state lands. In general, it was agreed, that the further one moves from the household level in project planning, the greater the danger of negative impacts on recipients' rights in land and landed resources. Examples were cited of elites being able to siphon off a majority of project benefits for themselves. The best way to avoid this is to include all levels--government, donor agency and local people--in project conceptualization. Nevertheless, it was recognized by the group that projects are most often conceived in an environment that is already bounded by prior policy choices.

"Report of the Working Group on Agroforestry Project Design," in *Land, Trees and Tenure*, ed. John B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 371-372.

## **THE USE OF MAPS**

Maps of the area to be studied are obviously useful: roadmaps, maps which show villages and trails, maps which show physical features, and ecologically relevant information such as rainfall, altitude, soils and vegetation. Again, the locally responsible agency must assemble such maps. If this has not been done, a visit to the Government Office of Surveys and Mapping or its equivalent in the capital is worthwhile, though maps of the area may or may not be available.

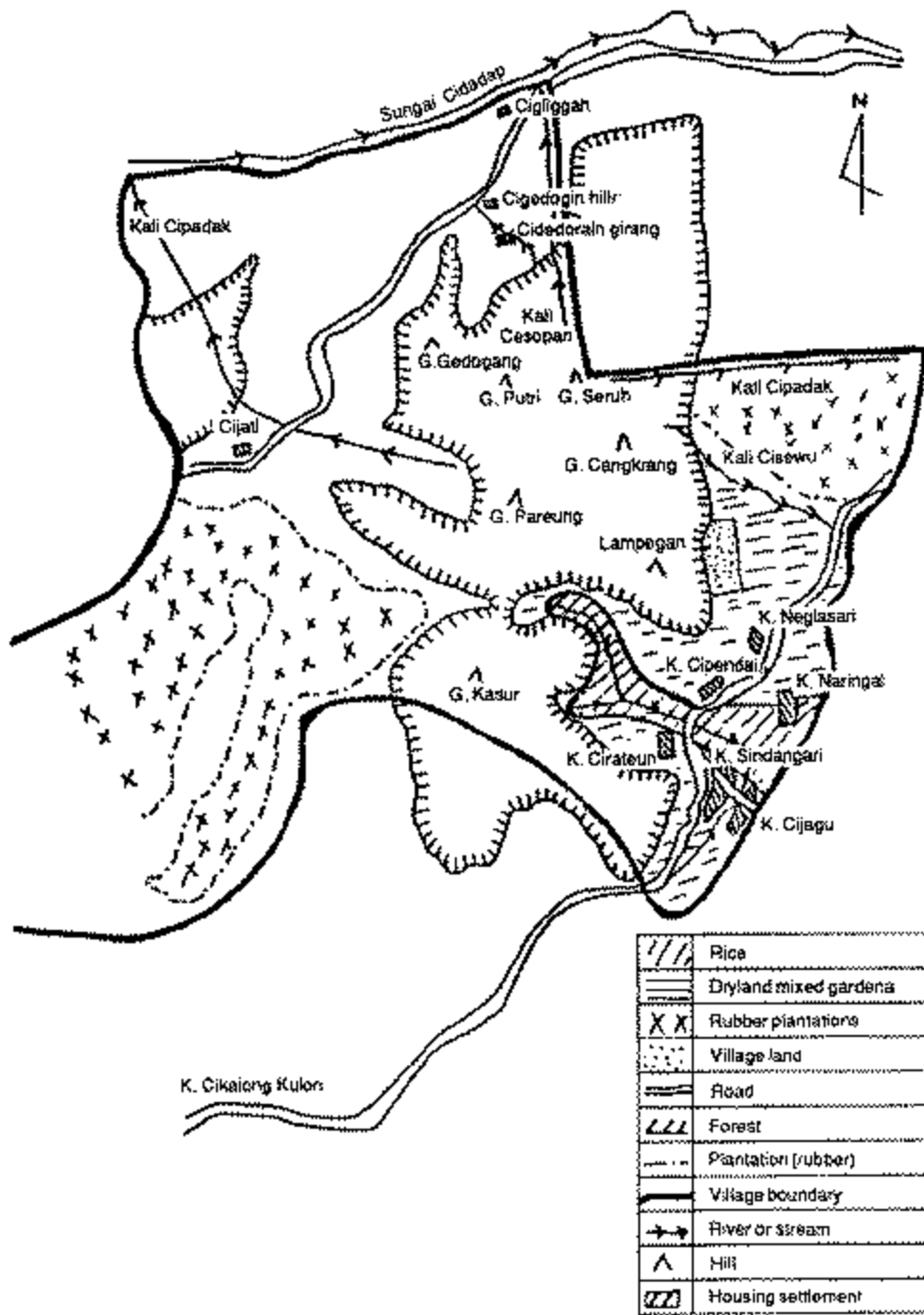
Satellite imagery is available from several regional centers, but at current scales it is useful for orientation within a large area such as a river valley or ecological zone is to be covered. The imagery and the work with the imagery needed to make it useful in the field are expensive, especially if alternatives exist,

Aerial photography of the area, if it exists on an appropriate scale, is usually preferable. This may be available through a government mapping agency, a geography department in a local university, or through a donor or contractor which has previously planned or carried out project activities in the area. Photography on a 1:20,000 scale will show roads and buildings and can be used to map the three types of tenure niche. A map of this type has been excerpted from Fox and is presented on the following page. At 1:5,000 or lower one can map holdings in some farming systems quite comfortably. At 1:1,000 one has excellent resolution; one millimeter on the map represents one meter on the ground. This scale is commonly used to make the photomaps used in demarcation of holdings in land registration exercises where parcels are small, and it may produce too much map to be useful in a field operation. Where field boundaries are visible, the maps can provide the basis for sketch maps of holdings once in the field. As will be seen in the next section of this paper, such a sketch map can be a useful tool in household interviewing, to map household resource use and rights in land and trees. Of course an aerial photo of land under a forest-farm system will not show boundaries; even on the ground, boundaries in such systems are often impossible to see until one has had them pointed out!

Where small plane charter is feasible and film can be processed and enlarged locally, photos taken from a window of the aircraft with a hand-held 35 millimeter camera can be very serviceable, partly because of the low scale, partly because of their true colors. The photographer or a companion must be familiar with the area. After a few long-distance shots, some selectivity is needed and it is helpful if one knows what one is seeing. Scale can be roughly estimated based on ground measurement of some clearly visible items such as a road. Failing access to a small plane or to supplement photos from a small plane, photos can sometimes be taken from a mountain or escarpment.

These maps, it should be emphasized, are not simply useful to orient the appraisal team or to illustrate the report. They are communication tools, and provide a basis for discussions of land use and tenure in field interviews.

Ciramaeuwah Girang Village, West Java, Indonesia;  
Privately Owned Land



From Jeff Fox, "Aerial Photography and Thematic Maps for Social Forestry," ODI Social Forestry Network Paper no. 2c (London: Overseas Development Institute, May 1986), p. 13.

## **4. FIELD PROCEDURES**

### ***GETTING STARTED***

It is possible to attain a meaningful if modest understanding of tenure in rapid appraisal only because in most customary tenure systems in Third World countries, different land tenures reflect different land uses. Different tenures exist to accommodate and organize those different uses. Where a different land use is visible, such as pasture or house gardens, pursue the question of whether there is a special tenure regime for land under that use. This will usually be the case. As suggested earlier, it will usually be possible to identify agricultural holdings, commons and possible reserve areas in the early stages of the rapid appraisal. This is the starting point: assembling an initial set of categories into which one can organize information.

The material will, however, become more complex, as where there are two commons, one for grazing and also a dense forest commons, with different rules as regards rights to use of trees; or where the holding has within it several tenure niches, such as a distinction between rights in "near fields" and "far fields," or some land under regular rotation and other land under shifting cultivation. What method do we use, when we want a more detailed image of tenure than the tenure niches which can be seen from observation of land use?

It is best to begin with a few key informant and small group interviews. A larger meeting attended by officials and notables of the area may be needed to explain the appraisal exercise, but such large meetings are not good opportunities to obtain reliable information on tenure rules. Notables may monopolize the information flow, and others may defer even if wrong information is given. In such meetings there is a strong tendency to state unequivocally traditional rules, even where in practice these rules are no longer obeyed. Such a meeting can, however, provide an opportunity to identify two or three individuals who are more thoughtful and articulate about the tenure system and able to present their knowledge in a more organized way. There may well be persons with specialized knowledge of the tenure system and its underlying ideology. The purpose of a talk with such key informants is orientation to the tenure system's basic concepts and vocabulary. It is also useful at this point, if the focus is on a reasonably small area, to walk through the area with a map. With the assistance of an accompanying key informant, key features on the ground can be related to the map, and their local names learned. Developing a map such as that by Fox, presented earlier, it is possible to establish the locations, appropriate areas and spatial relationships among the three broad types of tenure niche. A day or two should be spent on these activities at the outset, but not more. It is easy to get bogged down in such discussions, and it is important to move on to the farmers.

Some small group interviews may be arranged, but the most productive are usually informal discussions, held at the edge of fields, with farmers taking a break, or in a local bar. The quality of the interchange in such settings--in groups whose members often know and are easy with each other--tends to be better than in more contrived settings. Another

promising setting is outside the local court, as litigants await their hearings. Indeed the local court and judge or judges, modern and/or traditional, are worth a few hours on the topic of disputes over land and trees in the areas. One can learn quickly which types of disputes are common, and identify trouble spots in the tenure system. These may reveal unexpected issues concerning a possible community forestry effort.

### ***WHICH QUESTIONS FIRST?***

The early questioning in small groups should steer clear of questions such as, "Who owns the land?" or "Can land here be sold?" These questions incorporate too many assumptions. Rather it should begin with questions about people's use of trees, working from behavior to tenure. A line of questioning might run: "If a newly married couple wanted to build a house, where would they get the poles? How far away is that? What is that area called? Can they cut it or just gather it if fallen? Do they need to ask anyone's permission? If so, whose permission? Why that person? Can they take it at any time? As much as they want? Men and women? Any species? Can others take wood from there? Who? Can people from X also take wood from there? Why not? How can people from X be stopped from taking it? Who stops them? Why are they the ones who do it? Could the household who gathered wood take their oxen to graze there? Could they lop off branches for them? Could their goats browse there? Why not? Could they take goats at another time? Then where do their goats browse? How far is that?" And so on. One begins to find out what land and trees people have a right to use by finding out which ones they do use. Later come questions about the nature and basis of the entitlement. The questioning turns this corner into tenure as it asks what it is thought people should not and are not allowed to do, and seeks to distinguish these cases from what people simply do not bother to do for one reason or another. The nature of the rights emerge, and gradually it becomes clear how they are organized into the "bundles of rights" which are tenures.

Inquiring about land and tree use as a way into tenure provides a line of questioning which fits in more comfortably with the interests of the rest of the assessment team, who likely are foresters and farming systems analysts. It is important that the social scientist not regularly do his or her questioning alone, apart from the rest of the team, but instead help the other team members appreciate how people in the area think and behave about trees. When the foresters' questions turn to species, there are species-specific tenure questions to be asked: Can both men and women plant this species? Who could lop branches from it? Who would harvest the nuts? Who would sell them and who would get the revenue? Who could cut the tree down and sell it? Who would get the money from the sale? Patterns will emerge which can be compared later.

Even at this stage of the interviewing, a vocabulary in the local language for land and tree tenure must be developed. The "what is it called" question is a key one, as Fortmann suggests in the following excerpt. There may at times be a single term for a land use and a land tenure, and it is essential to get these definitions sorted out early on. There are also terms such as "parcel" (a unit of ownership) and "field" (a management unit), as well as "plot," "panel" and others which in English are often used interchangeably, with the meaning clear (if at all) only from the context. Similar difficulties in the local language



can seriously mislead the interviewer. There may be only one term for several different land units. It is almost impossible to clarify the use of these terms in abstract discussion. The usage will only become clear when the terms are tried out in different pieces of the holdings of the first households interviewed. This is necessary even for team members who speak the local language, but may not have previously become involved with tenure terminology. That terminology can be very simple or very complex depending on the case at hand. The same is true of tree species terminology. Where several team members are interviewing, it is important that they regularly check with each other on the way they are translating key words. Where there is time, the translation of a question schedule into the local language by a different translator is usually revealing. Even done orally in the case of particular questions, this is a useful way to proceed.

## **The Need to Seek Out Local Tree Tenure Definitions**

Current forays into tenurial research are hampered by confusion in basic definitions. What is a tree? The answer to this seemingly simple question has many branches. Silviculturists look with disdain upon lay people who refer to bamboo and bananas as trees. In the Pacific Northwest of the United States, foresters consider only conifers trees, referring to the *Quercus* species (which in the Northeast of the same country is generally referred to as the mighty oak) as weeds.

The lesson is that if we want to affect people's behavior we must put biological definitions in their proper perspective and concentrate on trees as social constructs. The social definitional rules are myriad. Some define trees as any tall, woody perennial. Others may define trees by their product, regardless of their botanical characteristics. Thus, plants which produce timber are trees; those which produce fuel wood or wild fruit are not. Still others may define trees by their users. Plants used by adults are trees; those used by children are not.

Similar ambiguity may attach to the definition of forest. In Nepal, peasants habitually planted fodder trees at wide spacings, believing that to plant them closer together was to court seizure of the land as a forest by the government (see Pandey, this volume). The operating definition in this case was one of density. Others may use species composition as the criterion. Thus, an aggregation of one species is a forest, that of another is worthless bush.

Clearly, the initial task of any researcher is to determine the local definitions of the relevant terms (always bearing in mind that different groups in the same area may have widely varying definitions); the definitions under statutory law; and the definitions used by government bureaucrats on a day to day basis.

John Bruce and Louise Fortmann, "Postscript, Tenurial Aspects of Agroforestry: Research Priorities," in *Land, Trees and Tenure*, ed. John B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 387-388.

## ***SPECIAL CONCERNS: THE POOR AND WOMEN***

Even at this stage, it is important to remember that communities are far from homogenous. There has been continuing concern over whether agroforestry and community forestry generally are adequately addressing the needs of the poor. The poor must be consulted in the appraisal, whether these be those who gather twigs and sticks on others' lands or tenants who farm others' land. Where a project involves substantial intensification of use with trees it may destroy rights of other users of the land and trees on it. Gathering rights may be lost.

Women are a group who are often neglected in project design exercises and whose situation often requires particular attention. The excerpt included here from Hoskins indicates the need to include women in discussions early in the planning of a project. Women must be consulted because agriculture depends so heavily upon their labor and, often, upon their management decisions. The integration of trees into a farming system requires that women be consulted. Moreover, women are often in quite a distinctive tenure position regarding trees and rights in trees. They may or may not have the same rights in land and trees as do men, and may in fact not be allowed to grow certain species of trees or grow trees in certain tenure niches within the holding. The excerpt from Rocheleau identifies two niches as critical for women, the home garden and the commons.

In some contexts there may be problems involved in men interviewing women. The rapid appraisal format permits no time for local people to develop confidence in a researcher, so inclusion of a woman member on the team is advisable and in some cases may be absolutely necessary. While contacts with women may be a bit difficult, there are places where women gather, at the well or at the stream for washing. The location will vary from place to place, but it is useful to question them at these sites, away from their husbands.

Such questions can be put to community members encountered throughout the appraisal, during informal interviews, on buses, in bars, or, best of all, walking through the fields. This is a good way to learn about particular kinds of rights in land and trees, to learn about their names and to begin to get a sense of their relative importance. The appaiser refines his or her sense of the tenure niches in the landscape, and learns how these niches are arranged in relation to each other.

## **Women's involvement in the Planning Stages of a Project**

Two other examples of conservation projects in which women were not consulted at the planning stage are instructive. The first is a forest-service project of fixing sand dunes in Senegal. After foresters had planted several vegetation bands, the project directors wanted villagers themselves to plant trees around their small garden plots. The people were polite but would not plant any trees. Some of the officials considered it laziness or lack of understanding of the way trees would help to save their garden plots from the encroaching sand. However, in a short conversation with local women, it became clear that they understood quite well the relation of sand and trees. One reason for their lack of motivation stemmed from not being able to sell the vegetables they raised and, therefore, finding those gardens of limited value. Their attitude was, why\_ should we do the forest service's work if the forest service does not do something for us? And why should we plant trees on our land if we feel that the trees will not benefit us? Incentives such as the provision of better roads or marketing infrastructure might have provided the motivation to plant trees.

Officials, i.e., men, are in the habit of ignoring or not taking women into account. In Mali a young forester had a plan to build berms along the hills, \*de contour in a forestry service area. He then planned to plant trees every three metres. The object was to save the soil for farming instead of allowing it to wash down into the town below. The forester said he had talked with the farmers who had permits to farm this land, and they had supported the idea. The written description had received its first approval. However, at the site it was found that the hills were already planted and did not appear to be badly eroded. They were, in fact, already terraced with crude stone walls. Women described spending the dry season collecting animal fertilizer and mixing it in the soil. They then built stone walls to help prevent erosion and watched every rain. When they saw areas that began washing away they built them up with stones. Since only men held farming permits, and these women were gardening on their husbands' lands, they had never been consulted, nor had they heard of the proposed project.

This project would have cut through their stone banks into their vegetable gardens and, in a year or two, would have shaded the land too much to continue using it for planting. Fortunately, the project was redirected in time, but many conservation efforts have similar negative consequences for rural women farmers.

Marilyn W. Hoskins, "Community Forestry Depends on Women," *Unasylva: An International Journal of Forestry and Forest Industries*, vol. 32, no. 130 (1980): 30-31.

## **Spatial Niches in the Rural Landscape**

Visible landscape patterns are an excellent point of departure for determining the spatial distribution of men's and women's domains, and potential niches for shared, separate or interlocking agroforestry technologies. Given the cultural and environmental diversity of land use systems and the dynamic nature of community development cycles and land use, little can be assumed as to which niches will be used, managed, shared, or owned by women. While live fences are the major opportunity for women's agroforestry technologies in some parts of western Kenya, the external boundary fences are the exclusive domain of male heads of household among neighboring groups. In some areas women still manage separate food and cash crop plots of their own, and in still others men and women cultivate and harvest separate plants within the same multi-storied agroforestry systems.

While there are no niches universally used and managed by women, there are some spaces that are more often their domain. Strangely enough, the areas most important to women are typically those closest to home and the farthest away. Home gardens are located near the center of household activity, while common gathering areas (forests, bushland and grassland) are usually at the outer periphery of home, croplands, or an entire settlement, depending on population and land use intensity (Raintree and Warner, 1985). While the nearby gardens are located so as to minimize time away from home, the distant location of peripheral gathering of the commons minimizes opportunity cost of land and actual labor and management inputs on-site.

Dianne E. Rocheleau, "Women, Trees, and Tenure: Implications for Agroforestry" in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. Louise Fortmann and John W. Bruce (Boulder: Westview Press, 1988), at p. 260.

## ***FOCUSING ON THE HOUSEHOLD***

We need to focus on one level of detail deeper than that of our "tenure niche." The focus has so far been on broad tenure niches in the appraisal area--tenure as seen from an airplane, or an aerial photograph. It is useful because the niches provide us with units with common sets of tenure issues. But now we need to shift to the viewpoint of the household, the typical unit of production and use. It is the household and its members who make the decisions about trees and tree products and it is their behavior which projects seek to alter. If trees are to be planted, they will have to plant them, whether as individuals or as members of the community. Since we usually cannot force them to plant trees, we need to ensure that they have the necessary incentives. Incentives may arise from household need or the opportunity to market the trees, but they are influenced by tenure. Land, the very opportunity to produce, comes subject to certain tenure terms which affect incentives. No farmer, for instance, will plant seedlings in an area over which he does not have sufficient rights to exclude to prevent their being devoured by others' livestock. We need to understand better how tenure influences household and individual decision-making.

To do this, we need to think of the household's landholding. The holding will often consist of several pieces of land, sometimes widely dispersed. The holding is quite likely to be a multi-tenure holding. Multiple parcel holdings may have the advantage of providing a variety of land types each suited to a different use. Those different uses are likely to have different tenure implications, and so the several parcels of the holding are likely to be found in several different tenure niches in the landscape. The effect is that the household has tenure of a different nature on the several different parcels in the holding. It also has tenure which extends beyond the holding. The "holding" consists of parcels of land in which the household has rights to relatively exclusive use, but the household will have rights in other lands as well, such as rights to use trees in a communal forest or rights to gather firewood on someone else's land.

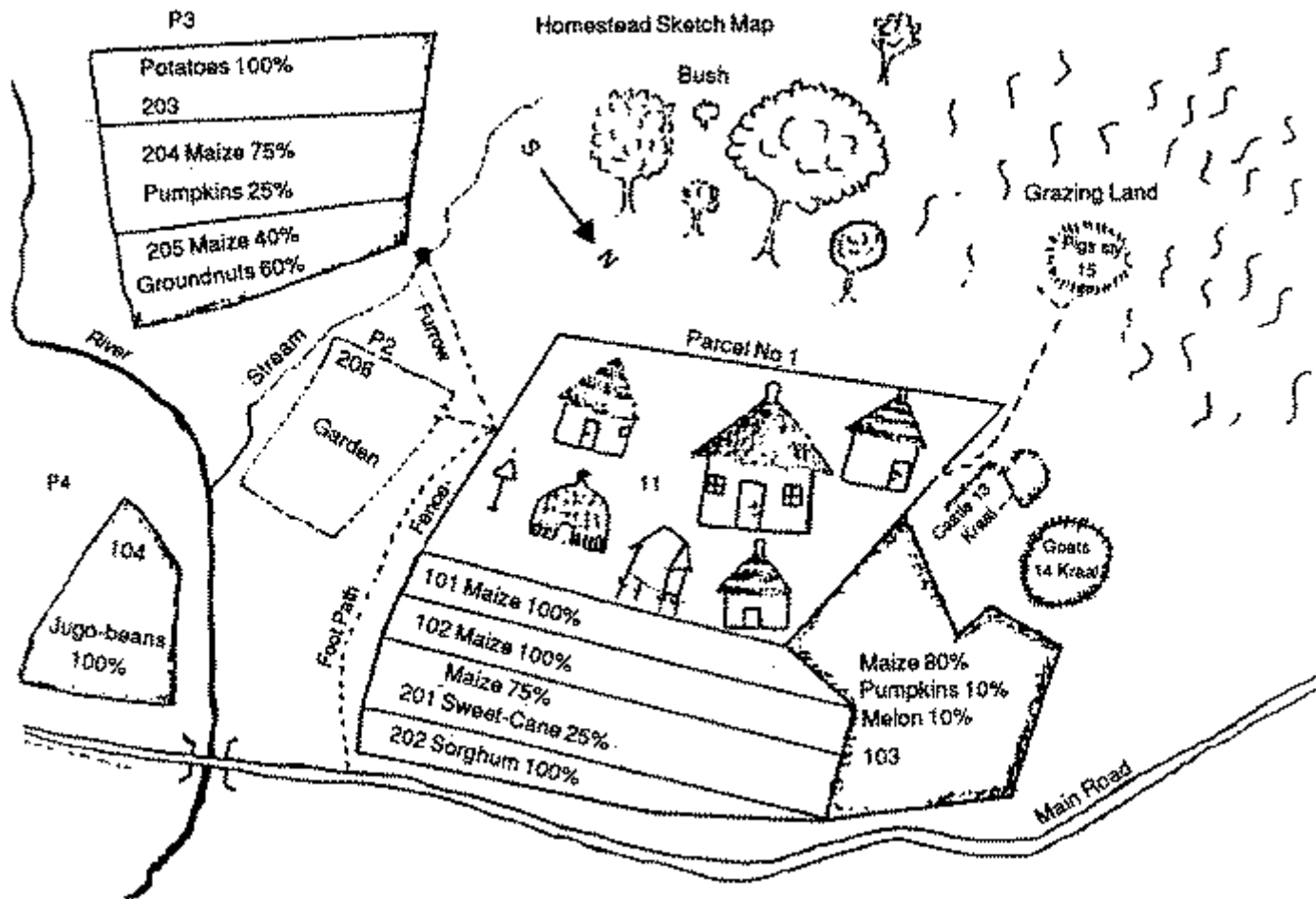
At the household level, the need is for a long interview (2-3 hours) with several members of the household, including women, present. The opportunity to return for subsequent interviews or to interview different household members separately may or may not materialize in the rapid appraisal context, though of course it is advantageous. The objective is to get a dozen or more thoughtful, probing household case studies. The concern should be with quality rather than quantity. If a household seems uncommunicative, don't take it as a challenge. Time is too valuable; move on. A question schedule rather than a questionnaire should be used. The question schedule should not be finalized until one has been in the appraisal area for several days and has oriented oneself to the tenure system. Even then, it can be changed as one proceeds. The laptop computer is a godsend for revisions in these circumstances. Data from these interviews are not going to be analyzed across households, so rigorous comparability is not necessary. And open ended questions, attitudinal and opinion questions have a vital role. If you want to know how people might react to a particular opportunity, ask them.

How should the households be selected? There is no simple answer; it depends on how long the appraisal team will be in a given locality. If only for a day, as with a team which is trying to cover a large area, possibly seeking to select a site, then you should be glad for any household you can get which is kind enough to give you its time on such short notice. If the household turns out to be unusual in some important way, this should be noted. But if one has a little longer, you can be more ambitious. A minimal objective is to avoid interviewing several households which are highly unrepresentative. On the other hand, a statistically valid representative sample is unlikely to be possible. One could stumble upon a village which has just compiled a list of households and sample it, but that will not often happen. In fact, such a local list should be examined critically. The manner in which and for which it was compiled should be understood thoroughly before using it. Such lists are compiled for specific purposes. Consistent with the purpose, there are often omissions, and they tend to be systematic. Landless or very poor households are commonly excluded. If the assessment is taking place in an area with a history of project or other research, there may actually have been random sampling and interviewing of households. If it is possible to obtain the list of households and household data from such a survey there can be great benefits to reinterviewing some or all of those households and being able to look at relationships between the already available household data and the answers to your questions on land and tree tenure.

But the above situations are unusual, and in practice one must often rely on guidance from a local contact, possibly a local leader who meets the appraisal team, to identify the households to be interviewed. How can you communicate what you want? There should be several "typical" households, households that fall somewhere near the mean in the community in terms of landholding, farming system and wealth. But it is also important to cover a certain range; the mean can be misleading in a society in which distribution of resources is bimodal. One should also have a list of special characteristics which one wants to include. Some categories are fairly universal: female-headed households, poor households, wealthy households, labor-rich and labor-poor households. It will often be particularly difficult to find poor and female-headed households. The local contact is likely to steer you away from them and toward households he or she regards as more successful and as "knowing more." Explain that you need to know the needs and capabilities of the disadvantaged households as well. Other specifically targeted groups will be particular to a specific location or the type of project activity envisaged: a household from a particular caste, a household that has sizeable livestock holdings, or even the household that owns the orchard you saw a mile back down the road, the only one you have seen on the trip. This last point is important. If a few local people grow trees while most do not, interview some of that minority of households and try to figure out what makes them different.

One of the tools in the interview and an important means of recording information is a sketch map of the household's holding and tenure. This is a variant on the sketch map regularly used in agricultural censuses. An example of such an agricultural census map from Swaziland is shown on the following page. Labelling the areas of land according to local tenure classifications can turn it into a tenure map. It is a communication tool, and because few farmers will have pictured their holding in this way before, creating a sketch map of it can generate considerable interest. Such a map requires a walk around the holding, possibly going up onto a hill from which you can see several areas in which the household has tenure. Such a map is indispensable when working with households which have more than two or three parcels in their holding.

## Farm Sketch Map, Swaziland Agricultural Census



Central Statistical Office, "Enumerator's Instruction Manual for Swaziland Census of Agriculture, 1983-1984, Phase Two, Part I, Area and Yield Measurement" (Mbabane: Central Statistical Office, 1984), p. 6.

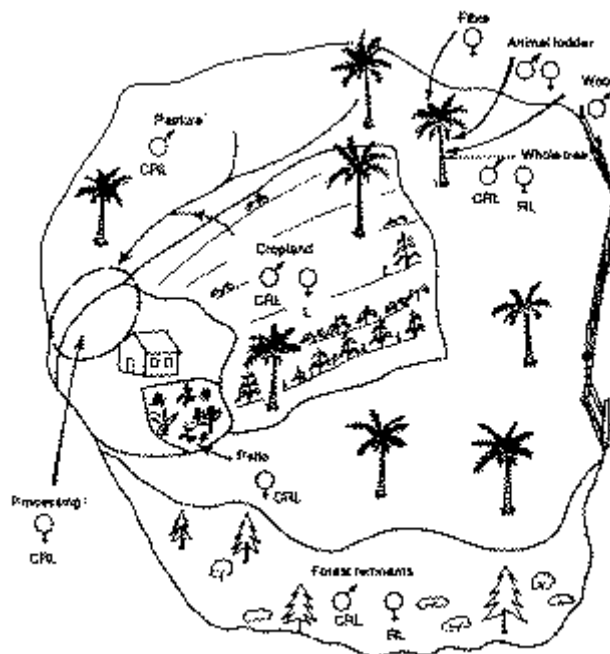
This sketch map approach can also be used to explore interhousehold dynamics. Men and women in a household often have very different rights and responsibilities for land and trees. Rocheleau has prepared a number of maps which use the terms "responsibility," "control," and "labor" to describe rights and responsibilities of male and female household members for trees on each parcel, and examples from the Dominican Republic, India and Zambia are given on the pages which follow. This author would usually be satisfied with a coding in terms of authority to manage, responsibility to provide labor and right to dispose of the product. The Rocheleau maps specify gender. Such distinctions can be important, as we will see in the next two chapters. These useful shorthands for sketch maps are, of course, no substitute for a careful specification of the extent of each household members' rights in the land and trees.



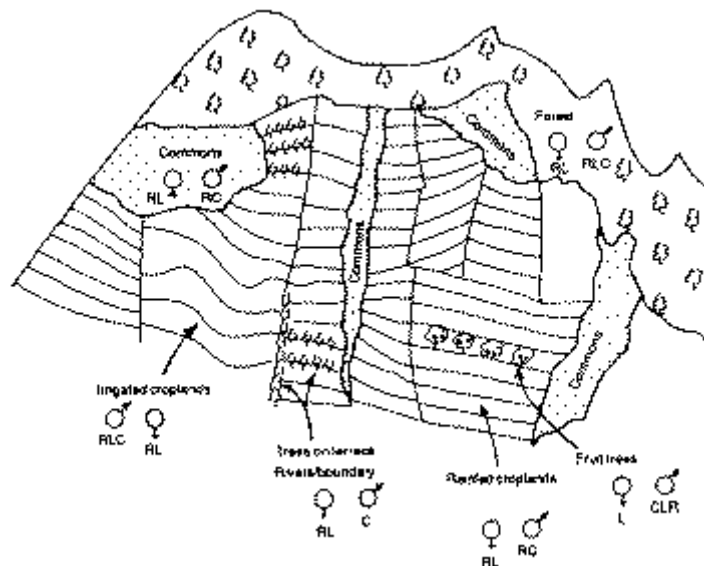
How much can one learn about tenure in a rapid appraisal? Can one both acquire all of this rather specific information and also find a general framework which provides a more holistic understanding of the tenure system? Very possibly not, but the framework probably matters less than the specifics for our purposes. To spend much time constructing the framework at the expense of detail about behavior can in this time frame produce misleading results. Customary systems have their own gap between norms and behavior. Rules which are disregarded with some regularity may be stated as eternal verities by local customary law specialists. Important lines of inquiry tend to be foreclosed by formal statements of customary rules. Good long-term research involves sorting out these discrepancies, but in a rapid appraisal there is not likely to be time to recognize a false lead and reopen the line of inquiry. This is the reason why this paper suggests that we work from behavior to rules, rather than vice-versa.

Of course, one may have acquired some sense of the "big picture" by the end of the rapid appraisal. Some local people may have been able to articulate the system effectively. Or one may have read a book or paper about the system before going into the field. It is in the last stages of the appraisal that one should return to key informants and specialists and try out one's perception of the formal rules and structure of the system, when one has a great deal of specific information against which to test generalizations. If one has begun to have ideas about opportunities or strategies or nagging concerns about problems, they should be raised with key informants. Rural people are not deficient in imagination; they will understand what you are getting at and you may be surprised at the perceptiveness of their questions and comments.

### Multipurpose Use of Land and Trees in Pananao (La Sierra, Dominican Republic)



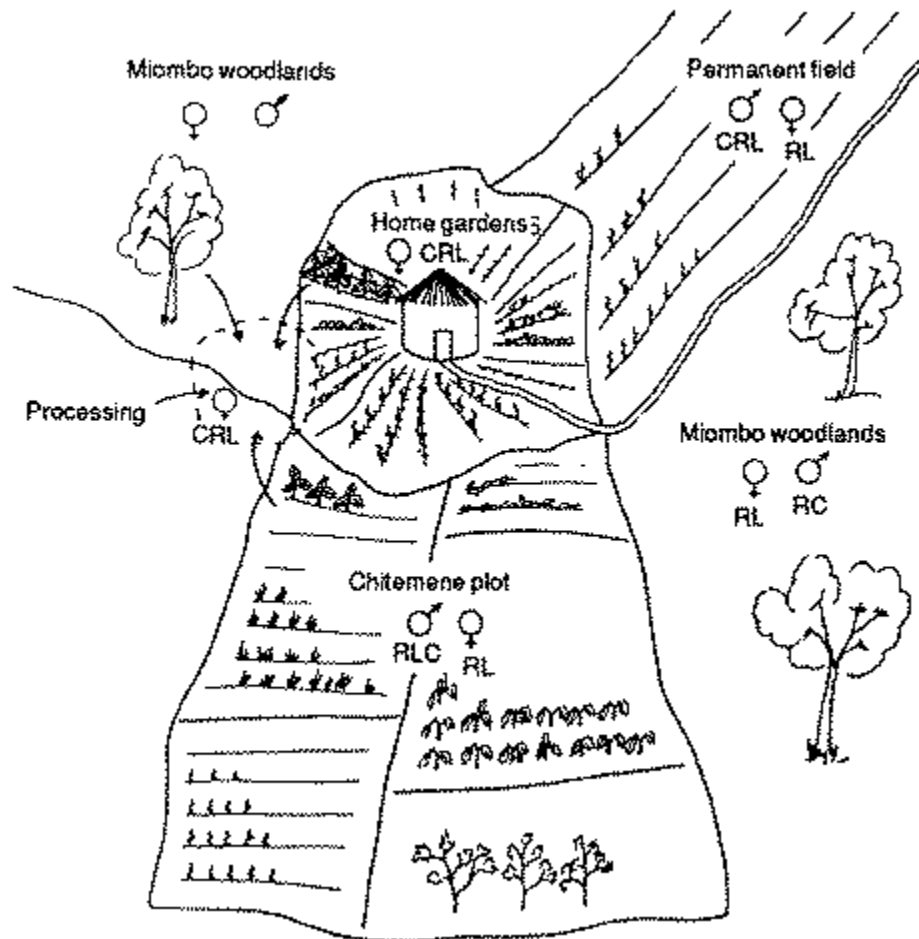
## Multiple Use of Landscape Niches and Trees in Fakot Village, India



R - Responsibility to provide a product thereof to household. L - Labor input for establishment, maintenance or harvest. C - Control of resource or process.

Dianne Rocheleau, "The User Perspective and the Agroforestry Research and Action Agenda," in *Agroforestry: Realities, Possibilities and Potentials*, ed. H. Gholz (Martinus, Nijhoff, Dordrecht, 1987), at pp. 68, 71.

## The Chitemene System in Northeast Zambia



R - Responsibility to provide a product thereof to household. L - Labor input for establishment, maintenance or harvest. C - Control of resource or process.

Dianne Rocheleau, "The User Perspective and the Agroforestry Research and Action Agenda," in *Agroforestry: Realities, Possibilities and Potentials*, ed. H. Gholz (Martinus, Nijhoff, Dordrecht, 1987), at p. 75.

## **5. TENURE ON THE HOLDING THE MULTI-TENURE HOLDING**

The concept of a socio-ecological niche has been used here to break up the landscape into a set of different areas of opportunity for forestry. Different opportunities are offered because different land use and management systems are employed in the different niches. Because these niches exhibit broadly characteristic tenure patterns, they have been referred to here as types of tenure niche: the holding, the commons and the reserve.

In this section we deal with the holding as a tenure niche. The majority of farming units in most countries are household farms operating a "holding," an area in which a household and its members generally have exclusive rights--the right to exclude others from use of the land. Tree planting on the holding takes a variety of forms, e.g., commercial monocropping of trees, alley-cropping, or windbreaks. While the household management pattern implicit in the notion of a holding has fundamental tenure implications, there is also considerable diversity among the tenures which households have over land, trees and other resources in their holding.

The holding for a particular household will commonly consist of several parcels of land, and some of the parcels may have different uses; for instance, a home garden with fruit trees on one parcel and more distant maize fields under shifting cultivation on other parcels. These parcels may well be under different tenures, first, because different uses have different tenure requirements--the home garden with perennials calls for more durable tenure than the maize field under shifting cultivation. Second, society sometimes assigns to certain land support roles for various institutions in the society--the shrine, the mosque, or perhaps the chief--and these support roles are enshrined in the tenure rules for that land. Its use will be conditioned on such support roles. The rights of the institution in the land serves to produce revenue for the institution which another society might obtain through a more generalized method of taxation. For an example of a multi-tenure holding pattern from highland Tigray in Ethiopia, see the Bruce insert on the following page. Third, particular members of a household will often have specific tenure rights in particular parcels and in fields within parcels. This is often particularly pronounced in situations where the production unit includes a number of households or in the case of polygamous households where wives are assigned separate individual fields. Fourth, at any point in time certain parcels in the holding may be held under tenure acquired by contract, such as leasehold, while other parcels which belong to the household may be encumbered with such contractual obligations. Such transactions in effect pass some of the household's "bundle of rights" in land to others for a period of time.

## **A Multi-Tenure System in Tigray, Ethiopia**

The most basic distinction in communities under chiguraf-gwoses tenure is the division of the land of the village into farmland and pastureland. The pasture of most communities is grazed as an individual commons though it may be closed to certain categories of livestock at particular times of year. But the pasture of some communities is, like the farmland, divided into plots for individual farmers. Such divided pasture was usually subject to periodic (often annual) general repartition and redistribution among the farmers by lottery, though such general redistributions were commonly long postponed. Divided pasture is viewed as fairer. When pasture is grazed as a common, the poor farmer with few or no animals is said to benefit far less from his access to it than the wealthy man with his herds, but when the pasture is divided, the poor farmer can sell the fodder which he cannot use or may even lease out his pasture share for the year.

Sometimes, however, the farmland itself is divided. Such a division is into koli and tserhi, each farmer holding in both areas. The koli, or "garden-land," consists of house sites and adjacent gardens. Within this garden-land the elders create new house sites and gardens as the need arises, by selective reallocations from existing holdings. The tserhi is the rest of the community land, the open fields beyond the garden-lands. The holdings there are supposed to be completely repartitioned and redistributed every several years by lottery and are sometimes called "lottery-land."

In most communities with churches, a third of the land, "thirdland" (meret silus), is set aside for use by the clergy. Third-land is not a supplement for the private holdings of the clergy; rather it is the only place they can hold land in the communities. Clerics are allocated land only from the third-land, and laymen are allocated land only from the other two-thirds. Both koli and tserhi have a third set aside for the clergy. The number of clerics in these communities often approaches a third of the farmers. The relatively easy availability of third-land ensures that young men will train for the priesthood and deaconate and that the parish church will be well served.

John W. Bruce, "Land Reform Planning and Indigenous Tenures: A Case Study of the Tenure Chiguraf-Gwoses in Tigray, Ethiopia," S.J.D. Dissertation (Law), University of Wisconsin, 1976; at pp. 121-124.

## ***INTERVIEWING FOR THE HOLDING***

So we begin with the bad news, bad from the rapid reconnaissance point of view, with its time constraints: to deal meaningfully with tenure one must deal with it at the parcel or field level, because important tenure distinctions exist even within the household's holding. While most variability in tenure can be captured at the parcel level, it is only at the field level that one can be certain of capturing variations in tenure by field managers within the household and so explore what may be important genderbased issues.

On the brighter side, the particular context within which one operates will often be simpler than the potential for diversity indicated here. Only some of these distinctions will exist on holdings in any given tenure system. Moreover, because differences in tenure are often based on differences in land and tree use, these distinctions can be approached initially through the same progression from observed use to tenure that this paper has urged throughout.

This paper has already indicated the need for detailed interviews with at least a half dozen or perhaps a dozen households. Because we wish to deal with tenure and tenure can vary down to the field level, this interviewing must deal with use at a field level. There is no way to design a form or question schedule which will accommodate all situations. A sample question schedule is given on the next two pages, but it has its limitations. It is designed to bring out distinctions in use between owner and manager of the land and between husband and wife or wives within the household. It would work fairly well in a mixed farming system, and gives considerable attention to trees if these constitute a part of the system. It would capture less adequately, however, the different uses of family members in a biologically diverse and highly integrated tropical garden, or where one parcel was cultivated communally for general homestead or compound needs. The usefulness of the question schedule given here is as a starting point in drafting a more locally relevant instrument.

From completed tables on a number of fields, some consistent relationships will begin to stand out, for example, clusters of specific uses vested in particular classes of users, including men and women, and relationships between land tenure and tree tenure. For each class of users (men or women, owners or tenants, whatever may be relevant in the locale) of a species, the interviewer should ask:

1. Are tree planters and users viewed as having a right to plant and use trees or could someone bar them from use? If the latter, who and why?
2. If it is a right, do they have it because of their rights in the land on which the tree stands? If so, is the tenure the same?
3. Or is it a right which exists because of some other factor, such as the act of planting or provision of the seedling?
4. Do such rights last for the life of the tree or are they limited in time?
5. Can such rights be transferred by: Sale? Gift? Loan? With the land? Separately from the land?
6. Can such rights be inherited? If so, by whom? If not, whose rights do they become and why? Can such rights be willed? If so, to anyone? If not to anyone, to whom?

7. Can the right-holder exclude other uses of the tree and are there others who have a right to use the tree?

### Sample Field Question Schedule

Interview no. \_\_\_\_\_ Date: \_\_\_\_\_

Locale: \_\_\_\_\_

Field identification: \_\_\_\_\_

HH tenure in field: \_\_\_\_\_

Manager tenure field: \_\_\_\_\_

Approximate size field: \_\_\_\_\_ Distance from residence: \_\_\_\_\_

Positions in Relation to Household Holding Field	Husband	Wife	Other HH	Non-HH
Interviewee is:				
HH head is:				
Field owner is:				
Field manager is:				

Go to table on next page and complete. Then continue:

Explanations and comments, including "other" responses, by column in Table:

Column	Comment:
	[In practice, more space would be needed.]

### Sample Field Question Schedule - cont.

<b>AND TREES</b>				<b>TREES ONLY:</b>									
(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(k)	(L)	(M)	(N)	(O)

Economic Value [gr.	Labor Requirements	Land Prep.	Provide Seeds/ Seedlings	Plants	Waters/Tends	Lops Leaves/ Branches	Sells Fodder	Spends Fodder Income	Hervests Fruit	Sells Fruit	Spends Fruit Income	Cuts Down Tree	Sells Wood	Sp V Re

**A-C**

- 1: Highest
- 2: Mayor
- 3: Significant
- 4: Minor
- 5: None

**D- Q**

- 1: Manager
- 2: Manager's spouse
- 3: Owner If not manager or manager's spouse
- 4: Shared by (combined numbers: 2/3)
- 5: Other
- e: Not applicable

**R**

- 1: Neighbors
- 2: Other local
- 3: Itinerant users
- 4: Other
- 5: Not applicable

**S**

- 1: Browsing by animals
- 2: Gather fallen wood
- 3: Lop leaves/branches
- 4: Pick fruit
- 9: Other
- 6: Not applicable

***THE KEY ISSUE: SECURITY OF TENURE***

Why do we care what rights people have in trees, so long as we know that they in fact do plant them, use them, etc.? The question of rights. concerns security of tenure. Granted that a user is practicing a certain use, is the user secure in it? Does the user have a right to it, or can someone turn him or her out and deprive them of the use, or interfere with it to an extent that it loses much of its value? If there is no security of tenure there will be little incentive to invest cash in seedlings or fencing, to invest labor in tree planting, to forego income from other uses of land which would offer a return in the shorter term, or even to keep the seedlings from becoming "goat salad."

How important is this security? In certain circumstances it may determine the success or failure of a community forestry initiative focused on the holding. But security of tenure comes into play in a number of different ways, some of which we are just beginning to understand.



The literature on land tenure in developing countries is replete with references to the relationship between land tenure and investment in the land. The simplest relationship, most often noted, is that insecure tenure discourages investment because the farmer cannot be confident of the opportunity to reap the returns from investment. While the planting of a new annual crop is an investment in the land, it is usually excluded from such analysis. Most crops take only a few months to mature, and after all, a farmer must plant crops even in the face of some insecurity if the household is to survive. From where the right to the land is lost, the loser may still have the right to reap crops already in the ground so that there is no risk in planting them (Bruce and Noronha 1985).

The investments which concern us, however, are the planting and conservation of trees. Trees are so slow-maturing that they must be treated differently from annual crops. Seedling costs may represent a substantial investment, especially for fruit or other income-generating trees. When trees take up land that would have been used for other crops, there are opportunity costs involved, costs which will perhaps only be recouped in the long run. At least in terms of the relationship of land tenure to investment in the holding, most tree planting resembles more closely a permanent improvement in the holding such as the digging of a well or the construction of a fence more closely than the planting of annual crops (Bruce 1986: 28, 87; Brokensha and Castro 1984).

Authors directly concerned with encouraging agroforestry on farmers' holdings in developing countries such as Nigeria, Haiti and Jamaica have stressed the importance of clear tenure rules, assuring the farmer that the trees planted on the holding will belong to the farmer (Adeyoju 1976; Murray 1982; Blaut et al. 1973: 63). The potential sources of insecurity of tenure are varied. A traditional tenure system which involved annual redistribution of parcels, such as that reported by Uzozie (1979: 344) of the Igbo of Nigeria, clearly poses problems for on-farm forestry. Where the state has legislated state ownership of trees growing on the holding and requires cutting permits to protect such trees, as under forestry codes in the Sahel, the principal consequence may be a loss of landholder incentives to plant trees on the part of the landholder (Thompson 1982; Lai and Khan 1986; Elbow 1988).

Perhaps the most straightforward evidence of the impact of tenure on tree-planting is provided by studies of farmers who have access to a number of parcels of land under different tenures. The cash crops of farmers in Tucurrique, Costa Rica, include coffee and peach palm and their tenure arrangements include ownership, relatively secure use rights, tenancy, land-borrowing and squatting. Survey research by Sellers found that farmers were growing trees on land held in more secure tenure and annual food crops on less secure landholdings. An excerpt is provided. In St. Lucia tenure considerations explain why trees are planted on soils and in ecological niches for which they are not best suited, with farmers utilizing individually titled valley bottom land for trees and hillside land under the somewhat ambiguous "family land tenure" regime for food crops (White 1986: 83). In Haiti, recent research by the Land Tenure Center (excerpted below) found parcel tenure was an important consideration in determining where trees were planted.

There are cautions to be observed in reference to security of tenure as a determinant of tree planting. First, it is essential to remember that even if tenure in the land in which the trees are planted is weak, tenure rights in the trees may be clear and strong. There has already been a discussion of tree tenure, in Chapter 1.

Second, tenure systems and a perceived lack of security are sometimes blamed for a lack of receptivity to tree planting opportunities which have been poorly framed in other ways; where, for example, a locally unattractive species has been promoted. Murray (1987) cautions against this approach, which at its worst becomes the blaming of local "culture" for farmers' failure to adopt what are in fact inappropriate species and technologies. The incentive effect of tenure is not of course unrelated to other economic incentives. No tenure arrangement can make attractive the growing of trees for which there is no demand, and a very high level of profitability may lead a farmer to take the risks implicit in insecure tenure.

### ***TREES MAY SECURE TENURE IN LAND***

The normally presumed relationship between security of tenure in land and the planting of trees can be stood on its head in certain circumstances. There is clear evidence that tree-planting can sometimes increase security of tenure in land.

In certain cases this is simply a consequence of tree tenure and the fact that control of trees often confers (for most practical purposes) control of land on which they stand, at least if they are thickly planted. A farmer may thus obtain, de facto if not de jure, longer-term control over land by planting trees. In other cases tree-planting may actually give rise to land rights under customary tenure systems, because the planting of trees is seen as amounting to ownership, proof of an intention to assert a right which, if unchallenged, ripens into conclusive proof of right. For example, palm planting is proof of ownership of land under several customary laws in Tanzania (James and Fimbo 1973: 301, 353). It is in these circumstances that land-owning groups, to avoid creation of permanent rights to land, may resist attempts by members to plant trees. Colonial extension workers found this to be the case in Tanzania (Brain 1980). In Lesotho permission from a chief was traditionally required (Duncan 1960: 95). The problem of community opposition was more recently encountered by alley-cropping trials in south-eastern Nigeria, where tree planting would have disrupted a community-managed system of rotation (Francis 1987).

## Relationship Between Land Tenure and Type of Agricultural Produce: An Empirical Study

For a random stratified sample of 40 farm households in Tucurrique in which I carried out intensive interviews and observations, the relationship between land tenure and agricultural produce is evident. (The N in this analysis is based on the farm plot. Some farm households have more than one plot under different tenure and crop conditions) . . .

Tenure Status [Subsistence] . . . Crops Mixed Cash Crops

No formal land rights 10 3 6

Legal rights to crops 3 11 8

Legal rights to land 1 3 11

The major factor which determines this relationship is the fact that the important cash crops are perennials while [subsistence] crops are annual or seasonal. Thus coffee, sugar cane, and peach palm are valuable crops because, while they require relatively large investments of time, capital, and labor to reach maturity, they yield a high return. This means that a farmer who holds title to land and the required time and capital can be reasonably assured of a secure income by planting cash crops. At the same time, reversing the causal relationship, a farmer who wants to assure himself of a solid income with cash crops will do well to acquire titled land and not risk losing his investment.

At the other extreme, the farmer who has borrowed land or is a squatter will probably not plant perennial crops and risk offending the titleholder and losing most of his investment. Of course, as noted above, there are some farmers who deliberately take the opposite strategy, and as precaristas [squatters] or borrowers try to improve their situation at the expense of the titleholder by gambling with perennial crops.

S. Sellers, "The Relationship Between Land Tenure and Agricultural Production in Tucurrique, Costa Rica," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. L. Fortmann and J.W. Bruce (Boulder: Westview Press, 1988), at p. 77.

## **Land Access and Land Use Case Study of the Les Anglais Watershed Area: Individual Land Portfolios**

The case-study data indicate that farmers in the Les Anglais area tend to have access to several small, noncontiguous parcels encompassing a wide range of eco-types and soil conditions. In addition, the farmer is likely to own some parcels while simultaneously farming others under tenant arrangements. Individual farmers use the different parcels in different ways. The farmer will decide to farm some parcels himself while giving out others. On one parcel he may cultivate coffee and a variety of fruit trees; on another he may grow black beans, corn, and congo peas; a third may be used primarily for pasturage. He may plant trees on some parcels and remove trees and bushes on another. A soil-conservation project that seeks to change the way that farmers use the land must include a means for understanding why different types of land are used in different ways. Clearly, ecological factors affect the use to which farmers put land. However, the landholder case studies suggest that the type of access a person has to land also enters into his land-use decisions. Thus, Karonel, who has access to several parcels capable of supporting fruit and timber trees, plants trees only on those lands to which he feels he has a secure claim. Mme. Elie sharecrops and rents out parcels that are too far away and rents in another, closer parcel. Yvalon uses his rented land for pasture rather than his purchased land. By looking at a farmer's entire land "portfolio" and comparing the different uses to which each parcel is put, one is in a position to understand better why a farmer may be willing to make certain investments on one of his parcels and not on another.

Rebecca J. McLain and Douglas M. Stienbarger with Michèle Oriol Sprumont, *Land Tenure and Land Use in Southern Haiti: Case Studies of the Les Anglais and Grande Ravine du Sud Watersheds*, Land Tenure Center Research Paper, no. 95 (Madison: Land Tenure Center, University of Wisconsin, April 1988), at p. 64.

There is a similarly complex relationship between trees and tenure where the farmer enjoys only derivative, temporary rights in land, such as leasehold. Sellers (1977), writing of Costa Rica, notes that where tenure rights are ambiguous, trees can provide a means of prolonging the tenant's possession of a parcel. Landowners often seek to protect themselves from this possibility by refusing to allow tenants to plant trees, regarding this as an attempt on the part of the tenant to tie down the land indefinitely. In the developing world tenancy arrangements are often not arm's-length bargains freely negotiated by the parties involved but instead institutionalized conquest, with those whose ancestors owned the land now working it as tenants for members of the victorious group. Tree-planting may be a way for a subject group to reassert claims to land. Arabs established extensive estates on the Malindi Coast of Kenya in the eighteenth century, during slave-raiding times. Giriama cultivators were reduced to tenants. But as early as 1937 they began to plant cashewnut trees on the Arab-owned land, thereby claiming long-term rights to land use and generating disputes that troubled both the colonial administration and later the government of independent Kenya (Shambi 1955).

A somewhat different dynamic operates in cases where the modern state is the owner of the land in which tenure is to be secured by planting trees. Here one is commonly dealing with tenure systems in which land is subject to allocation by the state to others if "unused," in which case tree-planting can be motivated by a desire to incontestably establish use, as a defense. Cocoa and coffee planting in a development project in Liberia in the early 1980s was apparently driven by such a dynamic, as reported by Harbeson in the excerpt which follows. Equally, tenure systems which authorize grants of more secure rights based on demonstrated use can encourage tree-planting as an unambiguous demonstration of use. This dynamic has been cited as central to the Ivory Coast's impressive record in expansion of smallholder cocoa, having led both to the clearing of virgin forest and the planting of tree crops (Hecht 1983: 33). On the other hand, it has been suggested that natural forest has been destroyed on a more extensive scale than would otherwise have been economical, because more extensive land rights could thereby be established (Tiffen forthcoming). Serious tensions exist between forest conservation and tree commercialization objectives under such systems.

## **Insecurity-Encouraged Tree Planting in Bong County, Liberia**

More generally, an apparent deep and far-reaching reservoir of intergroup distrust impedes the task of promoting cooperation in the interests of rural development, distrust reflected in part in land tenure relationships. This is particularly the case in Lofa where five distinct ethnic communities retain a strong sense of their respective cultural identities. For example, the team learned indirectly after its farm-level interviews in Lofa that even though our respondents fully understood what we said were the reasons for our visit, they nevertheless wondered if we had really come to assert a claim to their lands. One village group we spoke with, apparently expecting that we would offer some token of appreciation for their granting us an interview, resolved among themselves during the interview that they would accept no such gratuities. They apparently feared that to do so would be taken by us as compensation for access to their lands. How much greater must be the distrust in Bong where the loss of land to "big men" from Monrovia has been so much more extensive than in Lofa!

The increasing land scarcity resulting from steady population growth can only intensify distrust stimulated by land tenure insecurity. In the absence of effective policies to reform and regularize land tenure practices, villagers may be taking matters into their own hands while undertaking project-supported agricultural development. One reason that villagers have chosen to plant new coffee and cocoa trees is that such "permanent" tree crops represent a more secure claim to land than does shifting rice cultivation. A certain level of insecurity and distrust may induce entrepreneurial initiative, but beyond a certain point it can also lead to profound and destructive social disintegration. The objectives of rural development in areas such as Bong and Lofa must be to recognize villagers' motivations for what they are and, through such measures as land reform, channel them toward developmental objectives rather than allow the chaos that might otherwise occur.

John W. Harbeson et al., Area Development in Liberia: Toward Integration and Participation, AID Project Impact Evaluation, No. 53 (Washington, June 1984), at p. 6.

## ***WHOSE TENURE, EXACTLY: A GENDER ISSUE***

Finally, we must always ask: "Whose tenure, exactly?" At certain levels, most assessors do in fact ask this question. Where a tenant is to plant trees, assessors will ask what tenure the tenant has; and if the owner is to plant trees, about the tenure of the owner. But at another level, within the household, analysts tend to ignore important gender-based tenure differences.

Women's labor is important to trees on the holding. First, women are major users and managers of trees. The division of labor in many societies places on women the responsibility for obtaining food, fuelwood, and fodder, products that are obtained, at least in part, from trees (Hoskins 1979; Hoskins 1980; Hoskins 1983; Williams 1984; Cecelski 1985; Molnar 1985a; Chen 1986; Fortmann 1986). Second, no matter who plants trees, women's cooperation and labor are crucial for keeping them alive. It is often

women in their role as livestock managers who teach their children to keep small stock from eating the young saplings (Molnar 1985a).

What are women's use rights in trees? Can women use the full range of tree species that grow locally or are they prohibited from using certain kinds of trees that might otherwise be useful in fulfilling their responsibilities? Do women have access to all trees planted on the holding or are they restricted to certain niches, such as the garden-plot near the house?

Women may want to increase their security or convenience of access to trees by planting their own trees. This raises additional practical questions. Will they be allowed to plant trees at all? Will women be allowed to plant the species they want? Will they control the trees they plant? Does this depend on where they plant them? Rocheleau points out in the excerpt which follows that land used by women includes several niches, in some of which (such as the garden plot near the household) women are better positioned tenurially than in others.

The security of tenure model developed thus far assumes a landholder who is also the farm manager. Some policy-makers, if not the model itself, tend to assume that this holder/manager is also male. While this is often true in farm households, it cannot be assumed to be the case, especially in many developing country situations. The household's landholding, even if "owned" by a male, may consist of several plots, each managed fairly independently by a wife. Insofar as the wife makes the management decisions, whose security of tenure matters, hers or her husband's? If she is the one who must make the decisions concerning trees and bear the cost of planting trees, certainly her own security of tenure is critical.

This is cause for concern because in most African societies, whether inheritance is patrilineal or matrilineal, most women do not inherit land. If they do inherit land, they tend to inherit it in lesser amounts. While on a few cases women acquire land through transactions, most have access to land only by virtue of their rights to use part of their husband's land (Fortmann 1986; Cloud and Knowles 1988; Davison 1988). A wife's security of tenure may depend in part upon her husband's security of tenure, but it will be subject to additional limitations; for instance, a husband may be entitled to shift plots among wives as he chooses. Recent land tenure research in Senegal has sought to analyze the security of tenure of field managers rather than only parcel "owners" (Golan 1988). The tenure situation is of course by no means static. A tree planting project can alter women's rights, sometimes for the better, as in the Liberian case reported by Holsoe in the excerpt which follows.

## **Women and Tenure Niches in Agroforestry Projects**

While there are no niches universally used and managed by women, there are some spaces which are more often their domain. Strangely enough the two niches of greatest importance to women are often the closest to home and the farthest away, respectively. Home gardens are located near the center of household activity and common gathering areas (forests, bushland and grassland) are usually peripheral to the home and croplands or to an entire settlement, depending on population density and land use intensity. While the first (intensive land use) is located so as to minimize the opportunity cost of time away from the home, the location of the second (extensive use) minimizes opportunity cost of land and actual labor and management inputs on-site. A closer look at both of these land use types, their relative position in the landscape, and their importance for women, provides insights into general considerations re: spatial and functional niches for women's AF technologies and related needs for tenure and technology innovations . . .

The home garden is uniquely suited for agroforestry projects with women. The limited plot size encourages multistoried systems, while the woman's de facto control and the permanence (or relative permanence) of the site encourage investment in tree crops and site improvement (terraces, manuring, fencing). The small plot size also implies a high ratio of peripheral to enclosed area, and hence a relatively high proportion of the site production potential could be relegated to multipurpose living fence. The site can also be an ideal place for small livestock such as chickens, or caged rabbits, and may provide residues as feed for hogs or goats confined nearby, or supplementary fodder for a larger milk animal . . .

The communal grazing and gathering areas may be differentiated from the household lands by use alone, if at all. However, this domain deserves special attention re: establishment of tree ownership and land use rights early in the process of land use change. While men may replace their foraging activities with wage labor or intensified agricultural and livestock production, the group may continue to rely heavily on forest and range products gathered by women. Safeguarding or expanding women's tree ownership and rights of usufruct in surrounding forests and rangeland may help to prevent environmental degradation, as well as maintaining women's status and tribal rights to use and protect forest-and range lands of adequate extent and quality.

Dianne E. Rocheleau, "Women, Trees and Tenure: Implications for Agroforestry Research and Development," Background Paper, International Workshop on Tenure Issues in Agroforestry, Nairobi, May 26-30, 1985, at pp. 9-12.

Insecurity of access for women can also result from lifecycle changes (marriage, childbirth, divorce, widowhood) and changes in national policies such as land registration (Rocheleau 1988), as well as from changes in technology and the value of tree products. Widowhood is probably the most significant life cycle event in terms of security of property rights. A widow may retain a portion of her husband's land and tree rights



(Chubb 1961; Hoben 1973: 146-148; Obi 1963: 89-94) or she may lose them altogether as occurred in the case of a Peruvian cooperative (Skar et al. 1982).

Many social forestry projects address women's problems--e.g., the scarcity of fuelwood and fodder--but they do not necessarily benefit women. Women's tenure may seriously affect the level of response to a community forestry initiative, as shown in the excerpt by Francis which follows. A first step is to begin to adjust our tenure analysis to treat discretely the rights of women managers and users of land and trees. While the degree of independence of field management by women farmers will differ substantially from case to case, it is no longer tenable simply to assume that security of tenure for a male head of household translates into incentives for his wife or wives to plant trees.

To summarize, the issue of tenure on the holding and its impact on tree planting must be approached during-household interviewing at both the field level and by species. Use patterns must first be discovered, then the relationships between uses and classes of users. It must then be established whether land use is founded on rights of use, and how secure these rights are. Security must be examined in relation to the farmer who is asked to invest in trees. It must be remembered that where tenure is based on use, tree planting can actually be used to secure tenure.

## **Project-Created Tenure Change in Lofa County, Liberia**

For some, such as women, the project has offered a new means of gaining access to cash, particularly through tree crops. Since the project has limited the amount of area which an individual farmer may develop with project assistance, many men have chosen to increase their household-registered land by placing additional plots in the names of their children and wives. These plots, especially those held by women (and this is an important change for some groups), will allow the women to obtain cash from the sale of their crops which they then can use as they wish, usually without having to consult their husbands. For some women, particularly those whose husbands have too many other family members to worry about, this may provide either the necessary means of supporting themselves and their children, or it may serve as a means toward financial independence.

There is, however, a legal problem. Under traditional law, a wife married by dowry has limited rights to property in her own name. She herself is in essence the property of her husband's patrilineage, and only upon the return of her dowry and an additional "damage" fee is she released from this obligation. However, so long as a woman remains married to a member of her husband's patrilineage, she will maintain her right to the use of any farms which she has either developed herself or that are in her name. The latter is, of course, the case with plots developed with project assistance. In this sense, women gain some additional financial independence and can shape to a greater extent their personal destinies and those of their children.

Whether this new form of landholding registered in the names of women will have any impact upon future land tenure patterns, and more particularly on inheritance patterns, remains to be seen. But it is probable that since the process has now begun, women will begin to argue in time for their private ownership of the land, free from that of their husbands and their husbands' patrilineages. The pattern is already recognized for women within the statute law system of Liberia. Clearly the question raised is fundamental to the social fabric of the customary society, and it is an area that has to be reconciled.

Svend E. Holsoe, "The Upper Lofa County Agricultural Development Project: Its Impact as an Agent of Social Change," in Appendix F to John W. Harbeson et al., *Area Development in Liberia: Toward Integration and Participation*, AID Project Impact Evaluation No. 53 (Washington, June 1984), at pp. 4-5.

## **The Low Level of Women's Participation in Browse Tree Adoption Projects in Southwest and Southeast Nigeria**

The southwestern pilot project is situated some 18 km northwest of Oyo in Oyo State in the neighboring villages of Owu Ile and Iwo Ate. Women account for 60 percent of the adult population of these two villages (which totals something over 500), but only 18 percent of the browse-planting participants. There are a number of reasons for the seemingly low level of interest on the part of women. In the first place, many women do not have farming as their primary occupation. Their main activities, in addition to their domestic work, are the processing and marketing of palm oil and cassava products and petty trading. Many of those who are directly involved in agricultural production work on their husbands' farms rather than on their own. According to a survey of the entire population of the two villages, only 29 percent of adult women farm and only 7 percent, over half of whom are widows, do so independently of their husbands (figures derived from Okali and Cassaday 1984). . . .

The two project areas in the southeast of Nigeria are situated at Mgbakwu near Awka in Anambra State and Okwe near Umuahia in Imo State. Women in the southeast of the country have traditionally been much more involved in agriculture than those in the southwest and therefore a higher level of participation might have been expected at these sites. Nevertheless, of the 17 farmers who planted browse trees at the two sites in 1984 only two were women. While almost all women farm, few farm independently. According to the demographic surveys of Mgbakwu and Okwe, none of those women who head production units in the two villages have husbands who are engaged in agriculture. A woman can only be said to hold and manage land on behalf of her husband or, in the case of widows, his relatives or children. A woman must therefore seek permission to plant browse trees from her husband or his kin and this, it seems, is not readily granted.

. . . It is clear that the question of "land tenure" cannot be separated from, on the one hand, the structure of authority within the household and, on the other hand, established patterns of cropping and rotation. At the southwestern site, it would seem that customary occupational roles and the prevailing structure of economic opportunity rather than land tenure rules as such explain the low participation of women. In the southeast, the apparently low involvement of women is an aspect of the structure of decision making within the household production unit.

Paul Francis, "Land Tenure Systems and the Adoption of Alley Farming in Southern Nigeria," in *Land, Trees and Tenure*, ed. J.B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 176-179.

## **6. TENURE ON THE COMMONS APPROACHING THE COMMONS**

In some instances the forest is a no-man's land where use is on a "first come first served" basis. There may exist observable patterns of forest use but not rights of use (Moench 1988). Garrett Hardin (1968) propounds a "tragedy of the commons" thesis, contending that resources held in common are inevitably overexploited and degraded. In the true open access situation, this danger is clear, but Hardin's use of the term "commons"--with its associations of community ownership and potential for control--for an uncontrolled open access situation is unfortunate and misleading.

Over against the open access situation is the true commons, property held and used in common by an identifiable community. A communal forest is a commons, as is a village woodlot, or a common pasture with trees. The concept of the commons presumes the existence of a community, the proprietor of the commons, whose members are the persons entitled to use of the commons. The very nature of "property" implies a right held over against others, the non-members of the community. The authority to exclude non-members from common property may be difficult and/or costly to exercise, but the right to exclude is central to the concept of common property. Community property provides the basis for management of use by members, and the possibility of control and restraint of use in the common interest.

Our understanding of common property management has been deepened considerably by the research of the last decade and these insights need to be applied to the management of trees as common property. The difficulty of such management will differ from case to case. Scale is a factor--contrast the management challenge of a large communal forest with those of a village woodlot--but in no case is such management a simple matter. The dismal history of a generation of village woodlot projects has driven development planners back to common property theory to understand why their efforts miscarried so badly (Bruce and Noronha 1987: 136-139).

The agendas and preconceived notions of outside observers have often kept community forestry invisible. For example, the Chinese have been concerned with forests and the effects of deforestation for centuries. But both Chinese and European observers provided only the most fragmentary information on forest practices of local communities, requiring a heroic effort to piece together even a minimal view of community control. Menzies reports from such an effort in China, in the excerpt which follows. For-their part, state and national governments have no particular reason to acknowledge the rights or competence of community foresters since historically central governments have competed with local communities and local people for control of forest land. All over the world, for centuries, peasants and the state have been slugging it out in the forest (Fortmann and Bruce 1988: 273).

## **Traditional Community Management of Common Forest Lands in China**

Most of the examples of "common lands" might better be described as cases of village or communal ownership. In a study of forest management in Shanxi Province, Ren Chengtong (1925) outlined three categories of ownership: ownership by one village, ownership by several villages managing the land collectively, and clan ownership. He felt that the key to the successful management of village forests was that they had clear and unambiguous rules. In one case in particular, the villagers had devised an intricate management system in which silvicultural and organizational management were linked to ensure a sustainable harvest from the forest. The eighteen villages which jointly managed the area of Mian Shan each selected one officer to their management body. The members were then divided into three groups with six officers in each group. One group was responsible for supervising forest management for one year, on a rotating basis. Within each group, one officer was responsible for business for the year, also on a rotating basis. This gave two cycles: a short cycle of three years (with a different committee each year), and a long cycle of eighteen years (with a different business officer each year). At the end of each short cycle, the three committees jointly agreed to a selective harvest of larger trees, while thinning and maintenance were carried out every year under the supervision of that year's committee (Ren, 1925: 5). Two other villages had written charters which the villagers had had inscribed in stone about a century earlier. According to these charters, revenue from the forest was to be used specifically to run and maintain a school for the village children, and there was a clear system of delegation of responsibilities for management to a committee of village members. Decisions were taken by this committee before the whole village at specially convened temple meetings (it is not clear how the committee members were selected).

Nicholas Menzies, "A Survey of Customary Law and Control Over Trees and Wildlands in China," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. L. Fortmann and J.W. Bruce (Boulder: Westview Press, 1988), at p. 57.

Why do we care about trees on the commons? Wouldn't it be possible to focus exclusively on the holding to meet forestry needs? In fact there are a variety of situations when communal forestry continues to meet important needs: (1) in situations where intended beneficiaries are landless or for other reasons cannot plant on their holdings, forestry on the commons may be the only option for reaching them; (2) where the trees are of species that require frequent and complex care, perhaps involving special equipment, they may be more easily planted and managed on the common woodlot by a few trained individuals representing the community; or (3) where it is specifically desired to generate through tree-growing the income to fund needed community activities. Even where trees are grown on individual holdings, the nursery may well be on a commons area.

How do we set about examining tenure in trees on the commons? Commons management has a community dimension which cannot be captured through household interviewing

alone. It must be approached initially through the small group and key informant interviews suggested earlier. As a household may have a multi-tenure holding consisting of several parcels, so a community may have more than one commons. It may have two pieces of commons with the same tenure regime, or it may have several commons under different uses and subject to different tenure rules. It may, for instance, have a communal forest; a common pasture on which trees grow; as well as uncultivated interstices between parcels and holdings. These commons areas must be identified and their various uses assessed. The managing group must be identified, its membership clearly understood, its institutional nature and potentials gauged, and its various mechanisms for control of member behavior evaluated. The insert from Bruce and Fortmann which follows sketches out some of these information needs in greater detail.

Tenure in trees or the commons must however also be examined from the viewpoint of the household. Households' tenure extends to the commons: households which are members of the group have rights to use the commons and may even have specific rights in certain trees on the commons under a system of tree tenure. One must evaluate the extent to which those rights provide effective incentives for households and individuals to support and observe the rules which control the use of the commons.

Three of the sections which follow deal with assessment of the current realities and potential for the management of common property in trees and the land on which they grow. They suggest the importance of identifying the "community" clearly, assessing the various institutions, and understanding their mechanisms of control. The fourth deals with the diversity of interests which households may have in a commons, and how this can affect their commitment to effective management of the commons.

## ***IDENTIFYING THE COMMUNITY***

We cannot begin to think about common property management unless we have a clear sense of what precisely is the community which controls the resource; unfortunately, consultants' reports and project documents are often hopelessly vague on the point. This is usually not a very difficult matter to clear up, but assessors often work from dubious assumptions based on their experience elsewhere and never rigorously pursue the question. In some cases the matter will be complex. Community control of resources is primarily associated with geographically-bounded communities where ties of kinship buttress territorial ties. In these times of high population mobility and extensive economic interdependence, community and community membership have become harder to define and enforce effectively.

## The Commons

Conventional wisdom influenced by the writings of Garrett Hardin tends to assume that the commons is a place of tenurial chaos. Again research on pastoral systems has shown this to be untrue. However, the use of trees on the commons and use of the commons for tree planting has been less rigorously researched. . . .

Researching tenure on the commons will require a documentation phase. Who has what rights when? Who enforces restrictions? What is done about would-be free riders? What is done about outside marauders? Does this differ according to their political or economic connections? Such research requires considerable care because in some systems this is the arena in which class or caste distinctions are played out to their fullest. Supposedly common land may have in fact been hijacked by powerful families. Or the poor may make their living there in ways which are not perceived or authorized by the state or by local authorities. Or the state may not recognize the community's right to the commons at all, and press a claim of its own.

Once the existing system of use, rights, and regulations has been identified, additional issues must be considered. Does the commons serve as a safety valve for the poor, allowing the state to avoid redistribution of highly skewed land resources? Are there conflicting uses? For example, how do activities such as grazing and tree production coexist? One possibility is to include coppicing fodder trees in the species mix. Means of strengthening and legalizing use rights must be found. Most important, means of regulating use by members of the community and by outsiders must be identified. Should use rights be assigned to individuals, groups or communities? Should those rights attach to particular trees, to the entire resource area, or to particular products or activities?

John Bruce and Louise Fortmann, "Tenurial Aspects of Agroforestry: Research Priorities," in *Land, Trees and Tenure*, ed. John B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 392-393.

Even if we take community to mean a geographically specific place, community membership could be defined by present or previous residence, by property ownership, by kinship ties, or by some combination of these factors, a broad range of community-level institutional forms which engage in tree planting. Tree planting may be organized in certain societies by communities, small groups, associations, age groups, religious communities and women's groups (Cernea 1985). A single individual will belong to a number of communities, often greater or lesser importance. The definition of community membership determines who may lay what claims against community resources. The limits placed by definition of membership, if they can be enforced, regulate pressure on the resources. Yoruba communities have distinguished "strangers" as a separate category of residents who have a restricted set of rights to community resources (Lloyd 1962; Berry 1975). Similarly, Swiss communities have restricted access to communal summer pastures and forests to their citizens, a category that appeared in written documents as

early as 1473 (Netting 1981: 60). Thus, residence and even private property ownership in the village did not necessarily result in access to communal property. A clear identification of the community which can use and control use of a resource is the essential first step toward understanding commons management.

How does one gather information which defines the community in relation to the commons? In the group and key informant interviews one could begin with a set of questions such as:

1. Are there areas of land which are not held by households, but used by all of you or by a group? Suggest observed land areas which appear to lie outside households' landholdings. Then in each case ask:
  2. How large is it?
  3. How far away?
  4. Is the use seasonal, or year round?
  5. What uses are made of it, in order of importance?
  6. Are there trees on it?
  6. What species?
  7. Are the trees self-sown or planted (by species)?
  8. If planted, by whom (by species)?
  9. Who has a right to use the commons?
  10. Is use limited by one or more factors?
  11. Is the group defined automatically to include everyone with certain characteristics or is membership voluntary? If the former, what are those characteristics? Specify them clearly in each case.
    - a. Location of residence?
    - b. Descent?
    - c. Political allegiance?
    - d. Contract?
    - e. Other?



12. If group membership is voluntary, what portion of the local residential community is included? What portion of members do they constitute?
13. If voluntary, why do some join and not others? What are the characteristics of those who have joined?
14. Does everyone in the group in fact use the commons? If not, who does not use it?
15. Does everyone in the group use all parts of the commons equally, or is use localized or otherwise limited to a sub-group of the community in some way? If it is localized, how is it done?
16. If localized or limited, is this a matter of right, or just proximity and convenience?
17. If the former, what is the basis of the right?

Needless to say, although the commons areas tend to be some distance from villages, it is essential to visit the commons. A tour of the commons is often informative about the level and effectiveness of community control of the commons. For instance, does everyone seem reasonably sure of the location of the boundaries of the commons, or does it take quite a lot of discussion to establish them?

## ***THE VARIETY OF INSTITUTIONS***

By institution here is meant organization. Groups can be organized in very different ways and many different types of groups face the task of managing the commons. The manner in which the local community organizes itself as an institution to manage the commons will create important limits and opportunities for community forestry. The institution may be a traditional model or an organizational innovation for the community, such as a cooperative. Traditional authorities have not been indifferent to the destruction of the resources upon whose continued productivity the livelihood of their people depend. While their efforts at conservation have sometimes been overwhelmed by the weight of economic forces, it is important to note that they have sometimes used their powers as traditional land managers in attempts to conserve trees (Schapera 1943: 416, Duncan 1960: 95). Prevailing thought would suggest that common property arrangements arise when the user population lives close to the resource and is relatively small; in this situation supply is only moderately scarce compared to demand, and is subject to multiple uses requiring management and coordination. Groups seem to survive if they have clear-cut rules that are enforced by both users and officials, internally adaptive institutional arrangements, the ability to nest into external organizations for dealing with the external environment, and different decision rules for different purposes. And their chances are better if they are subject to slow exogenous change (Ostrum 1986).

Where such systems fail, it is often because government actions or new economic forces have undermined the authority of traditional managers. Commons management often must rely to some extent on state forestry personnel as well as the local community and local institutions to ensure the survival of seedlings. State forestry personnel often have only sporadic local presence and limited effective authority. Control by a professional forester on behalf of the Swiss community described by Hosmer (1922) requires that the value of the off-take from the forest be sufficient to pay a salary. Often local authorities and foresters exist in uneasy relationships. Only a small fraction of the trees planted in the Lesotho woodlot program examined by Turner (see insert) have survived. This is not to suggest that there is no role for national forestry programs. The excerpt from Openshaw and Moris provides examples of successful "decentralized" forestry management under centralized direction from China and South Korea.

How can we set about inquiring into the institutions which manage the several commons which may exist in a community? In practice, this is difficult to separate from our next question: what are the mechanisms utilized to control use of the commons. A set of questions which covers both areas is presented at the end of the next section.

## ***MECHANISMS OF CONTROL***

Over recent years, a great deal of largely unsatisfactory experience has been acquired with "village forestry." In some cases the trees were to be planted for erosion control purposes; in other cases, in "community woodlots" as a source of fuelwood. Trees for community woodlots are generally planted on common land near the village, but if erosion control is the objective, planting may be on mountain slopes used primarily as common pasture. Thomson, writing of the Sahel in the excerpt which follows, examines what he refers to as the "village woodlot fallacy," focusing on villagers' skepticism about the feasibility of local collective action. Organizing the protection and eventual disposition of trees planted on community land has been difficult, though often the matter has been approached naively (Brain 1980; Noronha 1980; Noronha 1981; Blair 1982; Hoskins 1982). The difficulty of what was being attempted was clearly underestimated. There is little evidence that there were any community tree planting schemes before the advent of modern community forestry programs.

A critical question is how community control is to be enforced. Community ownership of a resource does not automatically lead to effective community control over it. Such control requires the ability to both exclude outsiders and control the behavior of community members themselves.

## Community Woodlots in Lesotho

In contemporary conservation planning units, as with all conservation efforts in the past, the management of the land upon which trees are planted and the protection of these trees are entrusted to the chief and people . . . (Controls) remain dependent upon the authority, commitment and vigour of the chief and, to an increasing extent, the statutory and ad hoc committees which advise him on land and conservation matters respectively.

The quality of land allocated for woodlots in Lesotho has always been marginal. Trees are the peripheral land use considered only when superior uses--crops, grazing and residential sites--are inappropriate . . . Philips (1973, 23) warned that ". . . it must be borne in mind that the establishment of woodlots enjoys little or no priority; that cultivated and cultivable land holds priority for its retention for field crops and that, according to the local setting and pressures of live-stock, communal pasturage possesses a particular significance in the tradition of the people."

Although almost all the land put forward to the Lesotho Woodlot Program by villages has fallen into Bawden and Carroll's (1968) "unsuitable for agriculture" category and is viewed by the project as unsuitable for grazing (P.W.T. Henry, pers. comm., 1984), there is little doubt that despite its marginality it is often viewed as a grazing resource by part, if not all, the community. When dissension arises (see below) over the expropriation of land for woodlots, this is the principal cause.

. . . Damage to woodlots has been a continuous, but not overwhelming, problem in the operation of the LWP. It has mainly taken the form of grazing, to date. Woodlots are mostly fenced, and the fences are sometimes cut. There has been some debate within LWP as to whether fencing is necessary, given that in Lesotho animals are always herded, fences are easily cut and grazing damage is almost always intentional rather than accidental (Baines, 1981, 36), but the current policy is that it is. At a later stage in tree growth grazing is beneficial, as in keeping the grass within the woodlot down it reduces the fire risk. The problem of unauthorized cutting of wood will presumably increase as more woodlots reach maturity. Most of the current damage is by individual stock owners and herdboys seeking grazing for their animals and unimpressed by the need to protect the woodlot. This is exacerbated in drought years like 1983. There has also been some more premeditated damage. In some communities woodlots are established in the face of considerable opposition, usually from stock owners who resent the reduction in grazing land caused by the establishment of a woodlot. This opposition is usually contained, but occasionally leads to the destruction of fencing and of young trees.

S.D. Turner, "Land and Trees in Lesotho," (draft) (Roma: Institute of Southern African Studies, National University of Lesotho, 1984), at pp. 14-19.

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## **Successful "Decentralized" Tree Planting Under Centralized Direction: China and South Korea**

. . . In both countries, visits by qualified observers at

earlier periods painted a dismal picture of culturally entrenched land misuse and declining forest productivity. . . . But in each of these instances a concerted national effort linked with community responsibility did succeed: the Chinese claim to have increased their land in forest use from 5 percent in 1949 to nearly 13 percent in 1978, while large areas of South Korea have been transformed . . . By the end of 1977, Eckholm (1979) says 643,000 hectares of village woodlots had been established.

Of course, both of these consist of governmentally-inspired programmes undertaken in nations with a demonstrated capability to ensure mass compliance. Both, too, have chosen what is in effect "decentralized forestry" as their option--a nationally safeguarded system of communally utilized woodlots. Here the South Koreans have incorporated innovations that are of general interest, since the lands being planted remain under private ownership:

1. One village as a whole calculates its fuel requirements and determines which lands will be put under the VFA [Village Forestry Association] allocation. However, owners have the choice of reforesting the lands themselves or of putting them under VFA management in return for one-tenth of the future proceeds. Those doing the work get the major benefits (Eckholm 1979).
2. A linkage of enforcement measures against traditional use of the forested plots for firewood litter with a strong extension campaign.
3. Improved design of cooking stoves and other measures to conserve fuel at the farm.
4. New sources of energy in the system:
  - a. methane generation and kerosene heaters,
  - b. the mixture of fast-maturing species such as *Lespedeza* into the forest woodlots to permit early offtake of fuelwood (a practice termed the "suchon method") (Arnold 1978). . . .

Eckholm stresses that while these two cases are not typical of most agroforestry efforts, at the least they do establish that the combination of strong political commitment by leaders with communal participation and shared benefits by villagers can be made to succeed despite the negative impact of entrenched cultural practices favouring land misuse.

K. Openshaw and J. Moris, "The Socio-Economics of Agroforestry," in Proceedings of a Conference on International Cooperation in Agroforestry (Nairobi: International Council for Research in Agroforestry, 1979), at pp. 338-340.

## Local Collective Action Conditions in the Sahel

. . . In many contemporary Sahelian communities, local political conditions render long-term collective activities impossible. . . .

. . . Implications for participatory renewable natural resource management on a collective basis are devastating. In such milieux, local political conditions dictate that villagers cannot, for lack of effective local political frameworks, jointly protect and culture village woodlots, live fencing or windbreaks during critical initial years until they become established. They cannot as a group police woodstock or pasture use on village lands. They cannot develop and systematically maintain watershed management by collective action over the lands of all holders in a single watershed. Joint soil conservation operations and the like are impossible where these depend on the capacity to enforce collective decisions, because that capacity does not exist. . . .

Private Rights in Trees. . . . The current system of national ownership and subsidiary usufructuary rights could be replaced by village, quarter or individual ownership of specific parts of the woodstock (woodlots, trees located on fields, common bushlands, state forests, etc.). Such a tree tenure system assumes the more direct property rights would give user-owners a strong incentive to control exploitation and provide for adequate future supplies.

Is this assumption justified? The evidence suggests it is in some places, but not in others. . . .

Localizing Tree Tenure Legal Process. Privatizing tree tenure rights implies as a practical corollary localizing legal recourse and enforcement. This would markedly reduce costs to tree owners of defending their woodstock rights. A villager can generally find his quarter head, village chief, earth priest, or local Muslim cleric much more easily than he can track down a roving forestry agent. Thus authorizing local notables to handle tree tenure disputes would encourage litigation in defense of tree property rights. Such proceedings would slowly clarify those rights in local moots open to all. Decisions would be publicly debated rather than being handled in administrative proceedings between forester and violator. The latter often exclude non-interested parties. Moot proceedings would help inform locals of the new system of tree tenure rights, as well as defining content of rights.

James T. Thomson, "Participation, Local Organization, Land and Tree Tenure: Future Directions for Sahelian Forestry," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. L. Fortmann and

J.W. Bruce (Boulder: Westview Press, 1988), at pp. 206, 210-212.

How are controls on use formulated? There are two broad categories of strategies for community control: exclusion of non-members of the group and control over use by members. The former must rely to some extent on policing, but it is reciprocity which ultimately determines the effectiveness of such arrangements. The latter may be through impositions of quotas on individual or household use. One way of implementing such quotas is by assigning tree tenure--that is, assigning rights to use particular trees or types of trees on the commons to particular households or individuals. A second approach is to monitor off-take, which is difficult except in the case of a very small, closely managed commons. Alternatively the community will arrange for the trees or wood products to be harvested and distribute them among the members. Third, reserves may be created which are removed from community use until tree cover has renewed itself, or matured after planting, as in the case of the village woodlot. This diversity can be seen in several examples. In 1639 in Hampton, New Hampshire, three men were appointed wood's wards to control forest use and to assign a cutting quota to each household (Pennsylvania Department of Forests and Waters 1932). Community councils in Swiss villages marked trees to be cut for fuelwood and allotted timber shares by the drawing of lots (Netting 1981: 189). Leaves for fodder are auctioned and the proceeds used for community projects in India (Brara 1987).

Generally, the more extensive the commons the more difficult is control over its use. Trees on rangeland, such as those on the seasonal trek routes of nomads, pose particularly challenging problems. These are highlighted in an excerpt which follows, from the report of a working group on tree and tenure in Africa.

How can we structure inquiries concerning organization form and mechanisms of control? In small group and key informant interviews a series of initial inquiries along the lines set out below are suggested, in the case of each type (by use) of commons area.

1. Are non-members prevented from using the commons? What institution does this, and how?
2. From where does its authority to do this derive?
3. How is the institution constituted? For instance, is it hierarchical, as with the office of chief, or elected, as might be the case with a committee of elders?
4. How does the institution make decisions? Does it make rules? Does it execute them? Are there others responsible for executing its decisions? If so, who are they, and how are they chosen?
5. Does this or some other institution plant trees on the commons? Do individuals do so? If so, who actually does this work and how are they compensated? Where do seeds and seedlings come from and who bears their costs, if any? Is there a nursery?

6. Does the institution or some other institution create reserves which are closed to cutting to recover? If so, how large a portion of the whole area is currently in reserve?
7. Does the institution or some other institution directly cut branches, leaves, or trees? If so, does it distribute these, and by what system? Or does it market them, in which case how are revenues distributed? Do members feel assurance that they will receive this benefit? Why or why not?
8. Does the institution seek to regulate levels of member use? If so, does it do this through tree tenure or by setting and monitoring use levels? If the latter, how is this done?
9. What sanctions can the institution mobilize against members when its rules or orders are disobeyed? Can it cut off use rights, temporarily or permanently? Can it fine or imprison? Are there other sanctions used, such as corporal punishment? For what offenses are particular penalties characteristically imposed? Are they effective?
10. What sanctions can the institution mobilize against non-members?
11. Is a particular ministry or government agency responsible for institutions of this type? If so, what is the nature of the relationship?
12. Are government officials or the courts ever asked to enforce a decision made by the institution?
13. How are disputes concerning use of the commons settled? Disputes among members? Disputes between members and non-members?



## **Pastoralists' Special Problems Require Innovative Solutions**

Very little systematic knowledge exists concerning tree use and tree planting behavior among pastoralists. Among the critical questions and concerns to be addressed by research are: What are the rules regarding tree rights? What are the rights of individuals versus groups? For example, in parts of Sudan, the family has the exclusive right to shake fodder pods from certain trees, although others may allow their animals to eat the pods which have fallen naturally to the ground. In Maasailand, it is common for group ranches to allow herders from neighboring group ranches to graze on the outer fringes of one ranch's territory. However, during the recent drought, the membership of at least one group ranch with an abundance of *Acacia tortilis* trees on one of their outer borders activated exclusive tree shaking rights, restricting non-members to the use of naturally fallen pods. This kind of measured response to the drought suggests more sophisticated management of tree resources than is commonly ascribed to pastoral groups.

How can trees used periodically by nomadic pastoralists be protected when the pastoralists are not present? Newly arrived immigrants into pastoral land may be ignorant of, or simply ignore, the unspoken rules that govern relationships between existing groups, and they may tend to be more opportunistic and aggressive in the appropriation of common resources. What are the attitudes of government? Often there is strong pressure to encourage sedentarization of nomadic or semi-nomadic pastoralists, which may not be the best solution from an ecological point of view. Also, increasing population in well-watered pastoral areas is putting further pressure on trees and grazing resources. Does this mean that pastoralists will become more interested in planting and caring for trees?

"Report of the Regional Working Group on Africa," in *Land, Trees and Tenure*, ed. J.B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 337-338.

## ***INDIVIDUAL INCENTIVES AND RIGHTS IN THE COMMONS***

A commons is community-administered, but its existence ultimately depends upon whether the members of the community consider that its benefits to them outweigh its costs. A common property tenure arrangement provides for effective management of a forest to the extent that it mobilizes those incentives. The ability to enforce rules is often so modest that a substantial degree of consensus, and hence self-enforcement, is necessary. This is not easily obtained because communities are diverse. Their members have different degrees of interest in both trees in general and in the various uses of trees. The fact that trees are multi-purpose plants creates the possibility of a heterogeneity in the community concerning the relative priority to be given to the different uses of trees. For instance, a household with livestock will have a more substantial interest in trees as fodder-producers than a household which has no livestock.

It is necessary to understand this diversity of interests. Afforestation or conservation efforts have often proceeded as if a village or a community were homogenous, as if all members had an equally strong interest in the use and husbandry of tree resources. Far from being homogeneous, communities are usually divided by factors such as class, caste, religion, ethnicity, gender, geographical origin, length of settlement or even household cycle considerations. This diversity combined with the multiple and sometimes mutually exclusive uses that can be made of trees complicates the equitable distribution of rights to access to tree resources. Trees cut for timber cannot be used for fodder, and lopping a tree for fodder may reduce its value for timber.

Different strata of the community, households in different stages of their household life cycle, and even different members of a household have different needs for trees and tree products. The poor in dry regions of India are more likely to use common resources including the village forest for fuel and fodder while the rich use them as a supply of timber (Jodha 1986). Community level attempts to control resources are likely to reflect community struggles and cleavages.

The myth of the homogeneous community may lead the unwary into simplistic plans that fail to take community diversity into account. It is of course possible to set aside particular parts of a forest common resource for use by sub-sets of the community with relatively uniform interests, though this rapidly becomes complicated. But careless exclusion has serious results. Molnar (1985b: 8) describes a Nepalese village in which the men decided to protect their village forest from degradation by closing the forest "to all grazing and cutting, only allowing villagers a few, days per year to enter the forest and cut small wood and leaf fodder." The result was that the women, who had not been consulted in the decision, were forced to steal wood from the forest of the adjacent panchayat. The women of that panchayat, whose forest had been placed under similar system, did the same in the forest of yet another panchayat. This domino-effect was a direct result of village level decision-making without consulting the full range of the villages' tree users.

Women by virtue of their role in gathering firewood and other forest products in community forests require particularly careful consideration. Among the tenure niches, women particularly, depend upon the commons (Rocheleau 1987). Similarly, the poor and landless have a special dependence upon the commons and regulation of its use must be considered not only in terms of the impact on the community as a whole but also in terms of the impact among its most economically marginal members.

There are some issues particular to the community woodlot situation or any community forest situation in which use is deferred and, as is often the case, harvesting is done not by individual members but by agents of the group, as where wood is cut and sold on the market. In these circumstances the assessor must examine whether there are (1) institutional arrangements for protection of the trees, (2) provisions specifying benefit distribution in the long term, and (3) short-term incentives for good husbandry.

Arrangements for eventual use and distribution of benefits from the trees are sometimes painfully vague, and the uncertainty of returns have led the community, with a sense of skepticism born of experience, to regard the whole exercise as unrealistic. In other cases, the benefits of a successful project have been appropriated by the wealthy or by community leaders.

How can the community members be assured that they will ultimately benefit from the trees planted in the woodlot? One way is through a written, clear and legally-enforceable contract among members of the community and with the government concerning distribution of revenues. Models are available for such arrangements; the excerpt from Hosmer which follows details one such model. On the other hand, one should not naively expect that such a compact will be honored where there are major disparities in power in the community, unless the responsible government agency backs the weaker parties. As indicated in the excerpt from Bruce and Noronha which follows, project planners often approach the issue of "who benefits" with an innocence not shared by rural people. The creation of short-term incentives for particular people to protect the seedlings seeks to counteract the effects of community doubts about who will benefit from the project in the long run. These short-term incentives should be incentives for individuals selected by the community to care for the trees, and can involve mechanisms such as a cash premium for a high rate of seedling survival.

The participation of the government in a community woodlot project is itself a problematic factor from a tenure standpoint. Where government plants trees, the community may see government as attempting to take the community's land. The community sees government as the owner of the trees--after all, the local people are not allowed to cut them--and therefore are concerned that government is asserting a claim to land by planting its trees on the land. Even where seedlings are provided by the government for planting on the holding, there may be a lack of incentive for protecting seedlings based on people's perception that the trees somehow belong to government (Murray 1988: 219).

Our objective here should be to first understand what rights households and individuals have and how these are defined and assured, and also how different uses of trees on the commons by different households and individuals create somewhat different interests in the survival and husbandry of those trees. For small group and key informant interviews about a community forest or trees on grazing commons, an initial line of questioning might go something like this:

1. Who uses the trees in the commons?
2. Do particular households or individuals have rights in particular trees?
3. Do these rights vary with species?
4. What is the basis of such rights?

5. What uses can the right-holders make of trees in which such rights exist?
6. Do women have the same rights as men? If they are different, specify.
7. If no such individual rights exist, what are the rights to use which community members have in the trees?
8. Do women have the same rights as men?
9. Do these rights vary with species?
10. Do all users use trees for the same purposes, or are particular uses more important to some households than others? To what groups within the community are particular uses especially important?
11. Can any member use the trees at any time or is use seasonal or otherwise limited?
12. Is there any limitation on the amount of tree resources used?
13. Can the tree resources be used for commercial sale or only for home consumption?
14. Can trees on the commons be cut down, and in what circumstances?

This set of issues can and should be also pursued in household interviewing. Two sample question schedule sections which get at use of trees on the commons are provided on the following pages.

## **Distribution of Wood From a Swiss Communal Forest**

. . . There is one other Swiss example that deserves mention, the mountain forests of the commune of Grindelwald, in the forest district of Interlaken, in the canton of Berne. . . . The commune is made up of seven mountain villages, each of which has its forest. Three-fourths of the forest land in the valley belongs to the commune. From their location these forests all fall into the protection forest class. . . .

The interesting point is, however, the way in which the timber so cut is distributed among the people, for there is not enough to permit any to be shipped out of the valley.

Applications for timber and wood may be made only by bona fide residents of the commune, landowners. They are divided into six classes. First served are those who want lumber for repairing the little cabins that shelter the cattle in the high pasture lands, or for the construction of new cabins. In local usage these mountain pastures are "the alps," not the mountain peaks as we normally use the term. Second, comes wood for building and repairing fences on the mountain sides. Third, repairs to cattle stables in the valley. Fourth, repairs to houses in the valley. Fifth, lumber for new houses--which are usually put up by all the neighbors joining in a house raising "bee," just as used to be the custom in America, when the Ohio valley was still on the frontier. (Likewise the owner of the house sets up drinks for the crowd, the only payment, just as did our own worthy forbears.)

When all these needs are served, if there is any wood left, the sixth-class applicant comes to be considered, the man who wants fuel. Often he does not get any, for the allowed cut has been exhausted; but he seldom goes cold, for almost every landowner has a little patch of private woodland and also the right to gather dry wood and branches in the communal forest.

Ralph S. Hosmer, "City, Town and Communal Forests," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. L. Fortmann and J.W. Bruce (Boulder: Westview Press, 1988), at p. 121.






1: High for this group in relation to this species.

2: Significant for this group in relation to this species.

3: Minor for this group in relation to this species.

4: None for this group in relation to this species.

HH = Household



## **7. TENURE AND THE FOREST RESERVE**

Our concern here is the interaction between communities, farmers and forest reserves. The traditional idea of a reserve is of course to prevent or minimize these interactions. The reserve is a tenure regime designed to exclude community use. This section of the paper explores the origins of the extensive state forests under this tenure regime in the Third World, then turns to alternative, more interactive tenure models which an assessor may wish to consider. Farmers do in fact utilize reserves, legally or illegally, and to ignore this fact is to risk miscalculating costs and benefits of new tree planting initiatives.

### ***THE STATE AS FOREST GUARD***

There is a long tradition of conflict between the state and local communities over the control of forests. It was one of the matters at issue in the Magna Carta (Cox 1905: 6, 12; Hinde 1985: 28) and one of Karl Marx's early writings concerned the struggle between national and local powers over the right to use forest land in the Rhineland (Linebaugh 1976). A recurrent theme of colonial forestry, especially salient in the former British colonies in South Asia and Africa, is that forests must be shielded from growing use driven by demographic pressure. The major tenurial initiative of this period was the establishment of forest reserves. Private and communal tenure of forests were thought to pose a serious danger to conservation and sound exploitation, and it was considered that the state must take over control and carefully regulate use. The forests had become resources to be protected by the state against their former users.

But the state is sometimes an inefficient forest manager. Governments may lack the will to protect their forests, or their authority may simply collapse. For example, when the Uganda fell into chaos, forest guards' salaries were no longer paid. The former guards were directly involved in the widespread encroachment and settlement in the reserves (Makerere Institute of Social Research and the Land Tenure Center 1988). It may be more viable in some cases to create proprietary interests--rights to limited use of the forest--which give local communities and individuals an interest in sound husbandry of the forest reserve.

### ***PROPRIETARY ALTERNATIVES***

As population pressure around forest reserves has increased, there has been a growing interest in ways to provide at least partial livelihoods for some citizens from the reserves, consistent with sound management. In the case of natural forest reserves, which sometimes have limited commercial potential because of their mix of species, policies of exclusion of traditional users have been increasingly questioned. At certain population levels and ecologically sound use levels, these forests provided part of the livelihood for traditional cultivators and herders. Why can they not continue to do so?

Some interesting models for such use have been developed. Since 1983, in the Guesselbodi Forest Reserve in Niger, a management plan has been in place whereby the

Forestry Service licenses individual woodcutters from the area to cut wood in sustainable amounts to sell to a local marketing cooperative. All income from the sale of wood by the cooperative is distributed on an equal share basis among resident villagers. The Forestry Service controls grazing and illegal harvesting. As the following excerpt from Lawry indicates, the Guessebodi model appears to be working well and is promising because it casts local people and the state in a collaborative mode.

## **COMMUNITIES IN THE FOREST**

Residence in the forest is an option in commercial forestry situations. These have labor needs which can often best be met by workers resident in the forest. Under a system developed in Thailand and known as taungya, limited numbers of traditional cultivators were allocated areas to be reforested, where they could provide labor for tree-planting and at the same time cultivate their subsistence crops among the young trees. Once the canopy closed, they would move on to another area to be reforested (Goswami 1982). During the colonial period, the system was transferred to Africa and Latin America.

The tenurial basis of taungya is a contract between the Forestry Department and the participant (King 1968). While taungya provides cultivators access to land scheduled for afforestation, the system has usually provided only the most temporary tenure in a particular piece of land, and access to land for cultivation for only as long as there was land to be reforested. The current trend in Thailand is to provide cultivators with more secure tenure within the forests (Boonkird 1978; Goswami 1982; Boonkird et al. 1984). A titling program for farmers on "forest land" has been introduced, as is indicated in the excerpt by Pragtong which follows.

Where tenure is insecure, inefficiencies result. In Indonesia there is a tendency for those employed in the taungya system to damage the young trees, in order to prolong their access to the forest land for their crops (Soerianegara 1982; Peluso 1989). Similar problems have been noted in Ghana (Benneh 1987). In the Ikalahan area of Luzon, the Philippine Bureau of Forest Development in 1974 "released" 14,730 hectares on a 25-year lease to the Kalahan Educational Foundation, to be managed under an agroforestry plan for the watershed by a local board of trustees. An evaluation conducted in the seventh year of the project indicated substantial acceptance of some elements of the land use control plan and a marked decline in tenure insecurity (Aguilar 1982).

Reforestation of denuded "forest reserves" can sometimes be accomplished through the introduction of agroforestry systems with appropriate incentives for individual households. At Betagi in Bangladesh, a forest reserve had been completely deforested through encroachment and timber theft, sometimes with the collusion of officials of the Revenue and Forestry Departments. Landless laborers were later settled on a group leasehold basis and replanted the land. Now, after years of struggle against local elites who sought to take the land from them, the households have been given twenty-five year leaseholds. The level of conflict which has accompanied this process makes an important point: rights are easily lost and "must be reestablished every day" by their exercise (Fortmann and Bruce 1988: 338-341).

## **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 FLUP began work there in 1981. A management plan was put in place in September 1983. The plan 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 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 3 wood. Cutters pay 1,000 CFA per month to harvest a maximum of 25 m 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 established overall use standards and grants use rights to a credible 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 have difficulty doing.

Steven W. Lawry, "Tenure Policy and Natural Resource Management in Sahelian West Africa." draft (Madison: Land Tenure Center, University of Wisconsin, January 1989), at pp. 6-7.

## **Titling of Forest Land in Thailand**

As there are a great number of farmers in the forest land, the Forest Village program cannot cope with the whole of the forest land tenure problem. Moreover, the Forest Village program has been labeled a high cost project because of its integrated nature. Also the Forest Village is a means to carry out large scale forest plantation and it has to be attached to a forest plantation project of the government. Problems of forest land tenure not addressed by the Forest Village program have called forth a new program, the so-called S.T.K. (Sit Thi Thamkim or "Right to Harvest") Land Certificate program.

The S.T.K. Land Certificate program has been promoted since 1979. The program is designed to accept and work with the actual land holding of the farmers in the forest land. The deteriorated forest is divided into two zones, the upper watershed area and the land suitable for agriculture. The upper watershed area is protected while the land suitable for agriculture is offered to individuals through S.T.K. Land Certificates. The certificates for each individual will be for not more than 2.4 ha. Those who have claimed more than 2.4 ha will be permitted to keep this land on a temporary basis, as provided by the government. The tree planting program has been encouraged for those farmers who hold more than 2.4 ha. Twenty percent of the extra land will be planted with free seedlings provided by the government. The land and tree tenure will belong to the farmers and can be transferred through wills but cannot be sold (Royal Forest Department 1981). As of 1984, 607,945 ha of forest land has been offered to 366,517 farmers under the S.T.K. Land Certificate program (S.T.K. Office 1985).

Komon Pragtong, "Land Tenure and Agroforestry in Forest Land in Thailand," Regional Position Paper on Asia, in *Land, Trees and Tenure*, ed. J.B. Raintree (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry, 1987), at pp. 248-249.

## **ASSESSMENT ON THE RESERVE**

The above examples are cited to provide a sense of the range of situations in which communities and individuals establish tenure in the forest reserve. Such tenure arrangements in reserves may not be viable where the value of the forest is as a source of genetic diversity. In these situations protection by the state may have to be the central strategy for preservation, though tenure adjustments in surrounding areas may relieve pressure on the reserve. Nor are such arrangements common. Indeed, the situation upon which the appraisal team is most likely to happen is that of illegal use of a forest reserve. It is possible, however, that arrangements can be made to legitimize sustainable use of the forest reserve. Such arrangements can establish a local constituency for good husbandry and create a buffer against encroachment on the reserve. Alternatively, access to wood products from the reserve must be taken into account in planning community forestry initiatives outside the reserve. It will, for instance, be difficult to get local communities to incur costs to grow trees--such as food crops which might otherwise have been produced on the land--when wood products are available for free (if illegally) from the reserve. On

the other hand, more plentiful wood production outside the reserve can decrease pressure on the reserve.

But how do we assess tenure as a factor in this situation? We can assess use, but how can tenure be a dimension of illegal use, when the concept of tenure implies a right to use a resource? The answer lies in the multiplicity of legal regimes noted early in this paper. The "reserve" of national law may be the "commons" of customary law. There are reserves in Africa the gazetting of which local users are hardly aware. Use of this "commons" may be subject to rules which can provide a basis for sustainable use of a forest reserve.

In small groups and key informant interviews, use and perceived rights to use can be explored. A line of questions along these lines might be tried, utilizing a traditional designation for the locale of the reserve rather than some term which implies "reserve:"

1. Do you use trees there?
2. Is use seasonal, or year round? If seasonal, specify.
3. What are the uses, in order of importance?
4. Does everyone use the whole area, or a particular portion? If the latter, is this a matter of right or just proximity and convenience?
5. If it is a matter of right, what is its basis?
6. Do particular households or individuals have rights in particular trees?
7. Do these rights vary with species?
8. What is the basis of these rights?
9. What uses can the right-holders make of trees in which such rights exist?
10. Do women have the same rights as men? If they are different, specify.
11. If no such individual rights exist, what are general use rights? 12. Who exactly has such use rights?
12. Do women have the same rights as men?
13. Do these rights vary with species?

In household interviewing, questioning should as usual proceed on a species basis. The form provided on page 69 for the commons can be used here, with allowances for the

extent to which the community recognizes that its rights to use the trees have been rendered ambiguous by state declaration of a reserve.

Where one does find more organized use of land and trees in reserves, the relevant questions must be framed in light of their particular circumstances. The particularity of the details of these arrangements may be conveyed by King's summary of the terms found in taungya contracts in the excerpt provided below.

To summarize, there is a strong tradition in many Third World countries of the state as a forest guard. But state enforcement powers are often weak, in which case it is preferable to seek proprietary alternatives, local communities and/or individuals are given use rights, providing a local constituency for sound husbandry of the forest reserve. During an assessment, models along those lines may be noted. They may involve relatively sophisticated schemes for reserve management such as Gusselbodi, but most often they involve illegal use of a reserve. Where this is the case, examination of tenure issues must begin with a recognition that customary law may assign the reserve the status of community property, and exploration of tenure issues along the same lines as in the case of a common may provide the needed information for community forestry design.

## Terms of Taungya Contracts

The forester permits the cultivator: (a) To hold forest land free of rent, (b) To plant farm crops among the forest trees, (c) To plant farm crops in an area specially allotted to him in addition to that among the trees, (d) to reside on the forest estate, (e) To pasture stock, (f) To cut, collect, and remove free of charge from the area allotted to him all timber and firewood below a certain size, provided that he uses it himself, (g) To make charcoal free of charge.

The cultivator agrees: (a) To clear all land allocated to him, (b) To burn the felled area, (c) To cut pegs for the planting of forest species, (d) To plant forest trees or sow forest seeds among his agricultural crops, (e) To weed and tend the tree crop, (f) To extinguish any fire in the forest area or its vicinity, (g) To construct and maintain firelines at his own expense, (h) To construct and maintain bridle paths at his own expense, (i) (missing in original ed.), (j) To "beat up" the forest plantation at his own expense, (k) To place all weeds after harvesting along contours to prevent erosion, (l) To deposit a certain amount of money against breaches of the agreement, (m) To undertake work in other parts of the forest estate, or other jobs, for a specified period, (n) Not to plant certain specified agricultural crops, (o) Not to plant agricultural crops within specified distances of the tree crops, (p) Not to engage in certain types of weeding practice, (q) To maintain such standards of personal hygiene as reasonably conforms with the standard laid down by the Chief Conservator, (r) To register all members of his family resident in the forest estate with the Forestry Officer, (s) Not to allow any person other than a member of his family to pass the night in his dwelling house without written permission, (t) To pay to the authorized officer such proportion of the proceeds of the sale of crops harvested from his farms not exceeding 10 per cent, for payment into the forest Welfare Fund, (u) To sell surplus produce only to such syndicates or traders as are approved by the Forest Department, (v) Not to prepare any alcoholic liquor in the forest area without written permission, (w) Not to construct any house or building in the forest reserve without authority.

In addition to the conditions listed above, there are usually provisions: (i) Prohibiting the transfer of rights or the subletting of the land allocated; (ii) Regulating the period of notice needed for termination of the license; (iii) Taxing the compensation payable by the cultivator in the event of any breach of the terms of the agreement; and (iv) Allowing the payment of rewards and bonuses to competent cultivators.

K.F.S. King, "Agri-Silviculture, The Taungya System," Forestry Bulletin, no. 1 (Ibadan: University of Ibadan Press, 1968).

## 8. CONCLUSION: TENURE OPPORTUNITIES AND TENURE STRATEGIES

It was suggested earlier that when a forestry initiative is described as having run into a "tenure problem," what is really being said is that the project was not properly designed for its socio-economic environment. This paper has emphasized the need to take tenure into account. The tenure diversity which often exists so abundantly within a given community--the three types of tenure niches and all the particular niches within those broad types--represent opportunities. Our list of tenure niches, it has been suggested, should be seen as a tenure "menu" (Murray 1987: 328), a smorgasbord from which one can pick a tenure niche suited for a forestry initiative which meets our objectives. This selectivity applies to tree tenure as well as land tenure, and a project may prefer one candidate species over another because of the tenure rights recognized in that species. The excerpt from Chavangi et al. which follows indicates how a project in Kenya has targeted women as beneficiaries through species selection. This author suspects that few intractable tenure problems would assert themselves if there were, from the beginning, a "dialogue" between the local land tenure system and the forestry technologies considered.

How far can one understand these tenure issues in a rapid appraisal? As noted earlier, it will vary with the length of the appraisal, the previous experience of team members in the locale, the available literature on local tenure, and the ability of team members in the local language. The procedures suggested are not very demanding in terms of time: several small group and key informant interviews at the outset, a half-dozen or a dozen household interviews, and a return to key informants for clarification. At a minimum, an appraisal team can identify opportunities and potential problems related to tenure. However, the team will usually be less able to gauge with confidence whether a given tenure factor will have a minor or major impact on the initiative. It will be possible to get hypothesized tenure strategies but these will need further study before implementation. Further investigation is likely to be necessary, and the appraiser must in this case urge longer, more intensive research to flesh out tenure strategies and test their viability.

What is meant by a "tenure strategy"? Forestry initiatives need to have strategies about how tenure can accommodate or generate incentives for tree planting. In an excerpt which follows, Raintree proposes a phased approach to the introduction of agroforestry to accommodate what is likely to be gradual change in tenure patterns. Thomson (1987: 216) suggests that such a strategy may not necessarily involve providing a solution, but\_ instead "offering local resource users a series of options regarding the kinds of organizational structure and legal. regimes they might adopt in order to acquire greater control over their local resources," and then monitoring progress under the various options.



## **Gender and the Choice of Tree Species**

Given that fuelwood has always been the women's responsibility, a situation needs to be created in which men, if they actually help their wives to obtain fuelwood or allow them to plant trees, will not be subject to the ridicule of other men in the village. This can only come about if the community at large is made aware of the extent of the overall problem, and is fully involved in formulating and implementing a solution from the outset.

The trees normally planted by men on the farms are exotic species such as eucalyptus, which have many uses, but take many years to mature. One avenue that is being explored is based on the observation that some species, particularly *Sesbania sesban*, are not considered to be trees by either men or women. *Sesbania* is already intercropped with food crops by women in a few parts of the district to improve soil fertility. Since it is not regarded as a tree, and so women cannot claim ownership to land through it, then the men do not see it as a threat to their standing in the community. The KWDP [Kenya Woodfuel Development Programme] is developing this line of approach, by introducing similar tree species that can serve the same purpose, but which bypass the cultural blockages. . . .

Both men and women agree that to plant trees that will be used solely for fuelwood would be impractical, for several reasons. Men will not tolerate a situation in which their wives have sole access to the trees, and in any case many farms are far too small to support a woodlot of women's fuelwood trees in addition to the trees the men already raise for other purposes. The problem is therefore being approached from several angles simultaneously. The suitable species identified by the KWDP agroforesters (*Sesbania*, *Leucaena*, *Calliandra*, *Mimosa*) have many advantages: they have no traditional connotations, they grow very quickly, allow for close planting, they can provide animal fodder, act as windbreaks, improve soil fertility and help prevent erosion, in addition to providing a continuous source of high-quality fuelwood. One potential drawback of *Mimosa*, however, is that its stems are tall and straight, making them ideal building poles so that they might be monopolized by the men, but even this could be turned to advantage if all four species are marketed as a package that can within a very short period of time provide a significant contribution to the total needs of the household in relation to wood.

Noel A. Chavangi, Rutger J. Engelhard, and Valorie Jones, "Culture as the Basis for Implementation of Self-Sustaining Woodfuel Development Programmes," in *Whose Trees?: Proprietary Dimensions of Forestry*, eds. L. Fortmann and J.W. Bruce (Boulder: Westview Press, 1988), at p. 251.

## **A Phased Approach to Agroforestry to Avoid Tenure Issues**

Raintree examines the difficulties of introducing alley-cropping into shifting cultivation patterns where local communities or lineages maintain strong rights over allocation of land. He goes on:

For these reasons, and for reasons associated with the relatively higher labour requirements of the practice (as compared to planted fallows), intensive alley cropping systems are not likely to become very attractive to farmers until the short fallow or permanent cultivation states (3 and 4) of the intensification sequence, when ecological demands and tenure adjustments make it necessary and possible. Again, providing the system is not abused as a way of grabbing excessive amounts of land, supportive tenure adjustments would seem justified.

One way of effecting a smooth adjustment of agroecological and tenure factors associated with alley cropping would be to take a phased approach to the adoption of the system, based on the concept of an "optimal pathway of intensification" (Raintree 1980, V<sup>o</sup>3, FAO 1984, Raintree and Warner 1985). Starting with a fallow enrichment approach at Stage 2, tree species could be introduced which have both economic and biological fallow improving properties. By planting the selected trees in hedgerows at appropriate between-row spacing (which could be adjusted for effective erosion control on sloping lands), the way would be clear for an intensification of the fallow practice into semi-permanent or permanent alley cropping at Stages 3 and 4. As a final measure of intensification, undertaken under conditions of very high population pressure by the children or grandchildren of the original shifting cultivators, the installed "green manure factories" could be maintained in place and a variety of economically valuable upperstorey trees could be added to the system. In this last phase of intensification the system might come to resemble the architectural complexity and economic efficiency of the multistorey home garden, so often found in densely settled areas of the tropics.

John B. Raintree, "Agroforestry, Tropical Land Use and Tenure," Background Paper for the International Workshop on Tenure Issues in Agroforestry, Nairobi, May 27-31, 1985, at p. 33.

What will usually not be useful is to propose legislation to alter the tenure system concerned. National legislation is unlikely to be possible in time to affect the project. The assurance in a project proposal that "government is formulating legislation to deal with this problem" is usually an empty promise. Nor is the development of national tenure policy well served if it is driven by too narrow a set of concerns, as from a particular project. There are, however, possibilities for more localized tenure change:

**1. COMMUNITY LEGISLATION.** There is a prevalent misconception of "customary" rules as being deeply internalized, observed by ancestors from "time out of mind." It is often believed that such rules change only through what might be called "snowballing deviance," in which particular instances of deviance eventually become pervasive and are

recognized as the new custom. But "traditional" communities also legislate, acting purposefully to change rules to meet new circumstances. Projects can encourage such change in several ways, including preferential treatment of those communities which have taken the desired steps.

**2. CONTRACTS.** Because projects have benefits to offer, they can sometimes be traded for changes in land tenure arrangements. Contracts can be used as a tool for regulating tenure arrangements between groups or individuals, or between the project and groups or individuals.

**3. PROJECT ECONOMIC LEVERAGE.** Projects can affect behavior with economic leverage exerted through preferences, subsidies and a wide range of other actions, used independently or in connection with community legislation and contracts. Such leverage should not be used, however, to create incentives which will disappear when the project is over.

**4. "THE LAND LAW OF THE PROJECT".** Where projects are to be created on state-owned or appropriated land, as in many settlement schemes, the state creates a land tenure system for project beneficiaries as it defines the terms of their access to land. This is a challenging task under any circumstances, and such authority needs to be used with great restraint when working with communities long-established in a project area.

It must be emphasized in conclusion, however, that a rapid appraisal is not normally an appropriate vehicle for the development of such strategies beyond the hypothesis stage. This is social engineering and as such, needs to be approached with humility and caution. To devise viable strategies along these lines requires a greater knowledge of the local socio-legal system and processes than can realistically be obtained during a rapid appraisal. The critical task will in most cases be not the adjustment of the tenure arrangements but utilization of the information gathered in the appraisal to design a forestry technology appropriate to the community and its tenure patterns. By technology design here is meant not just species selection, but species use projections and integration into the farming system. This is an interactive process between potential groups of beneficiaries, their tenure and other incentives and opportunities, and the candidate forestry technologies. There are important policy decisions, value-laden decisions, involved in this process. They can be difficult even with the best of information. This is an interactive process that will proceed as the project progresses. While farmers will ultimately decide how they will employ the forestry technologies concerned, it is the responsibility of project designers to ensure that the technologies are offered in ways which facilitate rather than obstruct their adoption.

## ***The Methodology in Outline***

### **Preparation**

- Take care to understand the proposed forestry technology well
- Select a representative appraisal area

-Review:

-relevant ethnographic and other studies

-project design or evaluation reports from prior projects in the locale

-real property law and forest code

-Mobilize maps, aerial photography for field use -Develop rough models of question schedules

## **Fieldwork**

-Small group and key informant interviews to establish land and

tree use patterns, tenure niches and tenure terminology

-Organize the local landscape into the three broad tenure niches--holdings, commons and reserves--using topographic maps and low aerial photography as communication tools

-Formulate rough typology of households for selection of households for interview, including (as appropriate to the case) representative households, target beneficiary households, female-headed, poor and other vulnerable households

-Develop question schedules for household interviewing, organized in terms of household access to and tenure in land and trees in the several tenure niches

-Household interviews to explore impact of tenure arrangements on incentives for tree planting

-Organize the household's tenure in land and trees by niche, using sketch maps as communication tools

-Examine incentives, not just for the household as a whole, but for particular household members, especially women, and their degree of autonomy in management of tree resources

-Examine incentives by tenure niche, according to land rights in each niche

-Examine incentives in terms of tree rights, by species and by land tenure niche

-Go beyond land rights to relate incentive information to alternative tree technologies under consideration

-Key informant interviews (follow-up round)

-Share perceptions of tenure and other incentives

-Discuss relationship between various incentives, candidate forestry technologies and particular tenure niches

-Ask for key informants' perceptions and suggestions

### **Interaction: Socio-Economics and Candidate Technologies**

-Review potential adopting and beneficiary groups

-Consider opportunities and incentives of those groups in terms of tenure in trees and land

-In an interactive process, select and develop forestry technology which will mesh with tenure and other incentives and opportunities for targeted groups

### **Further Reading**

For those who wish to pursue further the relationship between tenure and forestry, the items in the inserts of this paper give a sampling of some of the more relevant work. In 1984 the International Council for Research in Agroforestry (ICRAF) and the Land Tenure Center of the University of Wisconsin collaborated on an annotated bibliography and then on a workshop. Most recently, a book of readings pulls together a large number of the more important sources.

1. Louise Fortmann and James Riddell, 1985, *Trees and Tenure: An Annotated Bibliography for Foresters and Others* (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry).

2. John Raintree (ed.), 1987, *Land, Trees and Tenure* (Madison and Nairobi: Land Tenure Center and International Council for Research in Agroforestry).

3. Louise Fortmann and John W. Bruce (eds.), 1988, *Whose Trees? Proprietary Dimensions of Forestry* (Boulder: Westview Press).

The references at the end of this paper provide a broader range of readings.

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