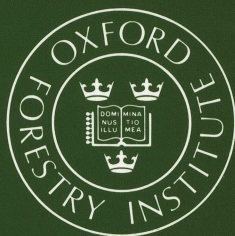


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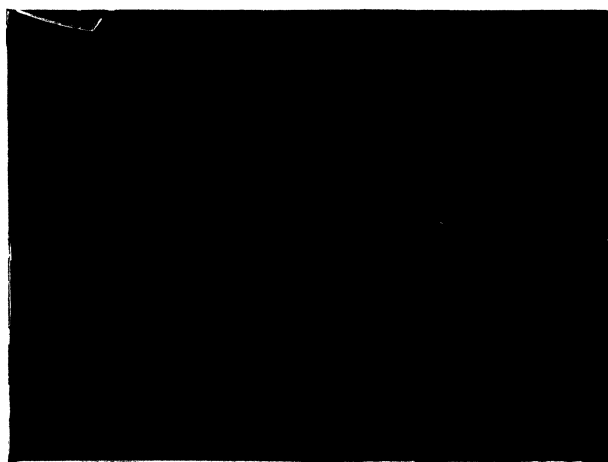
**LOCAL MANAGEMENT OF TREES AND
WOODLAND RESOURCES IN ZIMBABWE:
A TENURIAL NICHE APPROACH**

by

L. Fortmann and C. Nihra

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LOCAL MANAGEMENT OF TREES AND WOODLAND RESOURCES IN ZIMBABWE: A TENURIAL NICHE APPROACH

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PREFACE

Trees and the products of trees and woodland enter into rural livelihoods in a wide variety of forms; providing food, fuel, medicines, building materials, income, protection and an important part of many people's physical, cultural and spiritual environment. As pressures on woodland resources mount, it becomes progressively more important to understand these relationships, and the ways in which tree management can adapt to change.

Production and use of tree products at the local level are in practice embedded in often complex resource and social systems, reflecting the ways people organize the use of their land and other resources. In this study Louise Fortmann and Calvin Nhira examine a range of different woodland management practices and strategies that have evolved within Zimbabwe. In doing so they relate the systems they identify to the tenurial niches within which they exist; providing an analytical framework which should contribute to a clearer understanding of the social and institutional factors involved.

The study had its origins in research being carried out at the Centre for Applied Social Sciences at the University of Zimbabwe, with the collaboration of a research project on socioeconomic aspects of tree growing by small farmers at the Oxford Forestry Institute at the University of Oxford. As its results are likely to be of interest to persons working in a number of areas of research and application relating to rural development and forestry, the study is being published concurrently by both the Centre and the Institute.

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ABSTRACT

This study of forest and woodland management in the rural Zimbabwe begins from two relatively new conceptual starting points: the social forest and the tenurial niche. The social forest is a concept encompassing the more traditional view of forests, taking into consideration all trees used by local people regardless of their location, density, species or size. The tenurial niche takes a more fine grained look at property relations, allowing for the consideration of the complexities that tree tenure introduces to tenure in general. Using key informant interviews, a literature review and rapid rural appraisal, this study examines the prevalence of four management mechanisms (sacred controls, pragmatic controls, the civil contract and new institutions and rules) across various tenurial niches and suggests strategies for improving management and reducing conflict in each niche.

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1 INTRODUCTION

The term "woodland management" gives an impression of homogeneity of both place and practice that is unwarranted. We have tried here to indicate some of the social complexity affecting the use and management of trees and woodlands by peasant farmers in Zimbabwe. Our approach is based on a concept of the tenurial niche which has emerged from the application of land tenure theory to forestry. We believe that the use of the tenurial niche has considerable potential for the development of forestry policies more attuned to social realities. Our discussion is based on data collected by Nhira and Fortmann during a six-week rapid rural appraisal of seven sites in mid-1991, a year of field research conducted by Nhira in 1990-91, an extensive review of the literature and a one-day workshop with people involved in various dimensions of tree and woodland management in Zimbabwe. A more detailed treatment of our methodology can be found in Appendix A.

1.1 The social forest

Understanding local woodland management practices and strategies must be based not on biological or statutory definitions, but rather on the way local people define the complete system of tree resources that they use and manage. Thus, we have not limited ourselves to "forest and woodlands" as a forester might define them. We have instead focused on the "social forest"¹, that is, any aggregation of trees and other woody perennials, however spaced and wherever located, from which local people obtain trees or tree products for domestic consumption and/or commercial sale. Accordingly, we discuss the management of the complete woody biomass system including woodland, forests and individual trees in a variety of locations.

1.2 Tenurial niches in Zimbabwean forestry

It is generally considered that there are three classes of land tenure in Zimbabwe: state land, communal areas and commercial land (Moyo *et al.* 1991). In order to address forest and woodland management adequately, we require finer distinctions. To this end we have used the concept of the tenurial niche developed by John Bruce of the University of Wisconsin Land Tenure Center (Bruce and Fortmann 1989). In the study of land tenure the concept of the tenurial niche is used to describe a category of land to be used by certain groups in society and for particular purposes. It is a concept that is used to describe property relationships, not the agronomic, botanic, silvicultural or physical characteristics of the land or vegetation. We have expanded the concept to include tree tenure, defining tenurial niches as property claims to certain categories of trees by certain groups on land under various kinds of tenure.

Because land and tree tenure are not always synonymous, that is, different people may have rights to the trees and to the land on which the trees are growing, we can expect to find overlapping tenurial niches in forestry. Thus different people or institutions may (on different bases) claim the same trees on the same land, or different trees on the same land. With overlapping niches we can expect to find conflict. Using our definition

¹ The term "social forest" is taken from Romm (1991). It has also been articulated by Mukamuri (pers. comm.).

of the "social forest" as the full complement of woody biomass used and managed by people in the communal areas, we have identified six tenurial niches in which forest and woodland management occurs in Zimbabwe.

- 1 forestland controlled by the state
- 2 trees controlled by District Councils on communal land
- 3 indigenous woodland in communal and resettlement areas
- 4 trees planted by groups and institutions
- 5 trees planted/protected by individuals on individually controlled land
- 6 trees on commercial farms²

Villages may, and most villages do, have more than one niche.

Two strategy implications follow. First, different strategies may have to be devised to encourage the protection and enhancement of forest and woodland resources in each tenurial niche. Second, strategies must be developed to resolve conflicts arising out of overlapping niches.

1.3 Historical context

Present management dilemmas and options in Zimbabwe reflect the influence of historical events. While some villagers will tell you, "we cut down those trees", others take exception to being depicted as rampaging tree cutters. In their view, current problems are rooted in commercial timber harvesters who cut vast tracts of trees for railway sleepers and the mines; the colonial government which forced them both to build brick houses in straight lines (necessitating the use of considerable amounts of timber for poles and brick making) and also to clear and destump indigenous woodland for arable fields and in order to plant eucalyptus; and the pre-independence government which deliberately deforested parts of the communal areas in order to reduce cover for the liberation fighters (Wilson 1987, McGregor 1989, McGregor 1991). It should also be noted that heavily timbered land was much sought after for tobacco farms. Indeed, one white tobacco farmer averred that tobacco curing (which is carried out almost entirely by predominantly white commercial farmers) was the major cause of tree cutting in Zimbabwe (and before it in Rhodesia). In addition, the highly skewed distribution of land, both in terms of quality and quantity, has caused major ecological pressure. The import of this history is that those who bear the current burden of degraded woodlands and forests are not necessarily those responsible for the degradation.

² Available evidence suggests that wood is regularly poached from commercial farms (McGregor 1989, Gumbo pers. comm.). Gumbo (1991 pers. comm.) notes that a common attitude *vis a vis* wood poaching generally is "So it's protected, but for what? Why should I starve when there is wood just across the wire." Because we have no new data to add, we have not addressed this niche further here.

2 FOREST AND WOODLAND MANAGEMENT MECHANISMS

The management of woodlands and forests involves managing the supply and demand for trees either in general or for specific species or forms of trees³. Management of demand includes the utilization of wood and tree-conserving technologies, such as wind shields around fires or fuel-efficient stoves, or the introduction of grinding mills which reduce the need for timber to make mortars and pestles. Management of supply may involve creating a new supply and/or managing the existing supply. Creating a new supply includes: cutting new areas; substituting plentiful species for scarce ones; encouraging natural regeneration; and planting and replanting trees, both indigenous and exotic. Managing the existing supply may involve the restriction or regulation of wood use and tree cutting such as regulating the species or areas to be utilized, when they may be utilized, who may use them for what and how much they may take. We concentrate on this final form of management.

Within Zimbabwe there are two systems of forest and woodland management which are not necessarily mutually exclusive:

- 1 management systems initiated and implemented and/or imposed by the State
- 2 management systems initiated and implemented by local communities and individuals

We focus on the second, local community and individual management systems which can involve any or all of the following four mechanisms:

- 1 sacred controls
- 2 pragmatic controls
- 3 the civil contract
- 4 the initiation of new controlling institutions and rules.

2.1 Sacred controls

By sacred controls we mean norms of tree use and protection that are based in folk or "traditional" religious belief and that are enforced by individual internalization of the norms, community sanction and/or by religious and/or "traditional" leaders.

2.2 Pragmatic controls

By pragmatic controls we mean both long-standing and recently-adopted norms of tree use and protection designed to ensure a steady flow of a particular product. The prohibition of cutting fruit trees is an example of a pragmatic control.

2.3 The civil contract

By this we mean the norms of civility that govern daily conduct and which restrain

³ The concept of management for forms is the idea of Davison Gumbo.

excessively avaricious behaviour. Thus the civil contract ensures that people do not steal fruit from trees in each others' compounds or steal piles of firewood or poles left for later collection by the cutter. Parts of the civil contract may be reinforced by religious mores and norms, but they are not generally thought of as being "religious".

2.4 The initiation of new controlling institutions and rules

By this we mean the creation by the community (in some cases in cooperation with or at the instigation of outside institutions) of new norms of tree use and protection and/or new institutions to enforce rules of tree use and protection. Such new rules and new institutions may be engendered by changing circumstances such as increased population, perceptions of a fuelwood crisis or loss of essential tree species or tree forms, soil erosion or other environmental degradation, or economic crises. Examples of new institutions are wildlife committees, village development committees (VIDCO), and natural resource committees.

3 FORESTLAND CONTROLLED BY THE STATE: FOREST RESERVES AND NATIONAL PARKS CONTIGUOUS TO COMMUNAL/RESETTLEMENT AREAS.

Forest reserves and national parks all around the world are often places where local people try to exercise usufructuary rights despite the State's statutory claim to the land and the trees⁴. Less delicately put, people poach timber and other forest products from these lands. The most important Zimbabwean governmental bodies in this context are the Forestry Commission and the Department of National Parks and Wild Life Management (NPWLM). Local farmers contest for control of and access to Forestry Commission or NPWLM land and/or trees either formally or informally via trespassing, timber poaching or setting forest fires. There is ample informal evidence that poaching of timber and other forest products goes on in many forest reserves and parks in Zimbabwe and will continue to do so as long as they are the sole or the most convenient source of these products.

The development of successful management strategies for forest reserves and national parks must recognize an essential starting point: while from the standpoint of national interests these areas are a source of beneficial forest products including wildlife and serve important ecological functions, villagers may well think differently. To villagers they may be the source of dangerous and noxious pests. Or villagers may consider them as a landbank, a potential source of arable land. When land is scarce and pests are many, villagers may consider the forest their enemy. When local residents feel they have a legitimate claim to the forest land, the conflict can be bitter.

Perhaps because of a combination of expectations raised during the Independence struggle and the shortage of land and trees in the communal areas, Forestry Commission land has become the focus of serious contests between the Forestry Commission and local people. Possibly the most notorious and troublesome has been the controversy in the villages of Bende and Bende Gap⁵.

3.1 The Forestry Commission and the village of Bende

Because the extreme bitterness of the Bende case has some of its roots in the history of the area, we have provided some historical background in Appendix B. The most immediate controversy began in 1989 when the Forestry Commission decided to utilize forest area that had long been used for grazing by Bende people. The eastern boundary was fenced and grazing by Bende people was disallowed. The Commission began rearing cattle and sheep and growing seed potatoes. The official position of the Forestry Commission seems to have been coloured by a set of interrelated perceptions: that Commission livestock should not be mixed with local livestock to avoid contamination; that any decrease in communal grazing was due to in-migration; that local people should

⁴ Two excellent and instructive accounts of this phenomenon in Asia are Guha (1990) for India and Peluso (1992) for Indonesia.

⁵ These issues have also been covered in the Zimbabwean Press (Mutambara, 1990; *Parade*, 1990; Mauchaza, 1991).

solve their grazing problem with an internal land reorganization undertaken under the auspices of the District Administrator; and that Bende in fact had enough grazing and/or that farmers had too many livestock which they should sell.

During our visit to the community we met with a small group of VIDCO chairs and traditional leaders to request permission to interview community members. The leaders' refusal to grant that permission and their explanation of their reasons for doing so are instructive. Village leaders complained that while they had been allowed to graze their animals on Forestry Commission land in the past, this had changed with the recent fencing of the forest. People were arrested when they entered the forest at any place other than the two gates, their cattle were being impounded and they were being fined. Village leaders expressed the opinion that the Forestry Commission had taken their land before and that our presence indicated that it might be trying to take it again.

The conflict between the Forestry Commission and the residents of Bende and the nearby community of Bende Gap illustrates some of the issues at stake in forestry. The people of Bende are not struggling for access to firewood or poles. Wattle and pines are plentiful in Bende. Indeed, from a height, it is difficult to see many of the houses because of the tree cover. Such rules of tree use as were described to us by local school teachers had more to do with neighbourliness than with woodland management. Rather, the struggle is over land. In Bende, as in many areas, forests and woodlands are better understood from the local viewpoint as holding areas of arable and grazing land. The leaders of Bende have repeatedly expressed the view that when the Forestry Commission fenced its land in 1989, it also enclosed grazing land rightfully belonging to Bende. The fact that the Forestry Commission has used some of the fenced-in land, not for afforestation, but for grazing and seed potato production has simply added fuel to this particular forestry fire. Local people see the Forestry Commission not only making land use decisions that do not consider their welfare but that also actually impoverish them. There have been complaints about cattle deaths in the wake of the forest fencing although we have no data on their actual extent.

The anger of the people of Bende must be understood in the context of the households of neighbouring Bende Gap who were, after a long legal battle, forcibly evicted. In addition to legal actions, the two struggles have to date taken the form of the destruction of young pine plantations and occasional symbolic acts (such as felling trees across the road) that have put the Nyangui forester on notice of the intensity of the local anger.

Although the Bende conflict is particularly intense and weighted with considerable historical baggage, struggles also rage between the Forestry Commission and people living adjacent to or settled on its land elsewhere⁶. Despite the intensity of the conflicts, there is considerable room for policy manoeuvre in this tenurial niche.

3.2 Strategic possibilities

Shared stewardship between central government and local communities in the form of

⁶ Controversies on other Forestry Commission land have centered on legal tenants and illegal squatters.

co-management, communal forest lease contracts or collaborative forest management provides a set of possible models for future cooperation between the Forestry Commission and local residents over the use and management of Forestry Commission resources. While these models start from a similar premise, they differ in ways that allow adaptation to varied local circumstances.

Co-Management: McCay and Acheson (1987:31-32) define co-management as the right of communities (or other units) "to share management power and responsibility with the State. It is an attempt to formalize a *de facto* situation of mutual dependence and interaction in resource management".

From the standpoint of the State, co-management has the advantage of neither requiring it to abrogate its responsibility for the well-being of the resource nor requiring it to relinquish all claims to benefits from the resource in favour of the claims of the local community. From the standpoint of the local community, co-management has the advantage of allowing them to benefit from a local resource and to ensure that their expertise is incorporated into the resource management strategy. From the standpoint of the resource, co-management has the advantage of reducing conflicts which often lead to its misuse or destruction and of combining multiple sources of expertise in its management. Co-management of commercial government forests has been tried with considerable success in West Bengal, India where, in return for a substantial share of the profits, local villagers (both women and men) patrol and physically drive off would-be poachers from *Shorea robusta* forests (Stewart 1991 pers. comm.).

Arnold (1992 pers. comm.) points out that the Indian co-management model is based on the complementary interests of the two parties in the resource. The Forest Service gets timber while local people get fuel, fodder and mulch. In the Zimbabwe case co-management can work as long as a similar complementarity of interests persists. But once the demand escalates from grazing and fuelwood to use of the land for arable production, other models may be more appropriate.

Communal forest lease contracts: Cornista and Escueta (1990) describe the Ikalahan communal forest lease granted under the Philippines Integrated Social Forestry programme of 25-year roll-over stewardship contracts which for all practical purposes in this case gave legal recognition to their traditional land claims. Under the terms of these leases the local organization receives exclusive rights to use and manage (but not sublease) the area in return for protecting the forest and adjacent stands from fires and human incursions. The advantage of communal forest leases from the standpoint of the community is that they get access to the forest land as well as the forest products. From the standpoint of the State, it contains pressure on forest land in the face of land hunger⁷. While the implementation of such agreements in the Philippines has not been problem free, it has demonstrated the potential for the devolution of stewardship responsibilities to local residents as a means of protecting the environment and meeting local needs.

⁷ Bruce of the University of Wisconsin Land Tenure Center has long pointed out that forests constitute a "soft tenurial underbelly" which is hard for governments to defend against invasion by squatters.

Collaborative Forest Management: Pragtong and Thomas (1990) describe the efforts of the Thai Royal Forestry Department (RFD) in developing ways to "meet both local needs and the objectives of national resource management policies" (p. 180).

"...the program employs a collaborative strategy at two levels. At the program level, the RFD is collaborating with policy advisors and university forestry and social science faculty and research staff, in both central and regional universities, with some assistance from nongovernment organizations. At the local level, the RFD is collaborating with local communities in formulating mutually acceptable land-use plans and in exploring the potential for community management of nearby reserved forest resources".

"Implementation of this strategy is through a learning approach centered on community organizer and working group concepts....Community organizers are supported by RFD field project officers and each month they discuss their progress, problems and ideas, and develop rolling plans for the next month in a informal working session with local, regional, and central RFD staff and university staff and faculty. University staff also analyze progress and problems across pilot villages in each region, and conduct applied research to support project implementation. Their findings are integrated into monthly meetings, where new issues are raised for future work (Pragtong and Thomas 1990:180-181)".

An advantage of collaborative forest management is the built-in iterative process of development dialogue marshalling the skills and knowledge of a wide variety of stakeholders and actors, taking on a rural development programme in addition to the resource management component.

4 CONTROL OF TREES ON COMMUNAL LAND BY DISTRICT COUNCILS

District Councils' utilization of trees on communal land presents a case of overlapping tenurial niches⁸. Under the Communal Lands Act and the Communal Forest Produce Act District Councils claim ownership of trees in some communal areas and have given harvesting contracts to commercial timber concessionaires. Local people who otherwise have usufructuary rights in the area are prohibited from using the species being commercially exploited. Local people report in some cases that government officials as well as agents of the concessionaires seek evidence of use of these species by local people and those who are caught are arrested and fined.

While concessionaires sometimes provide employment to a few local people, local villagers do not receive a share of the profits. Even when they do not use the wood themselves or would burn it to get rid of it, they feel that they should get a share of the profits. And they do not feel that the District Council, which does receive money from the harvesting, provides a satisfactory level of service in recompense. While villagers have not planted these indigenous species, they make a compelling argument that their restraint is responsible for the continued presence of these trees. Thus, in a sense, they have contributed management. Indeed, this argument has been made formally to District Councils. For example, in complaining to the District Council about harvesting by timber concessionaires, the people of Plumtree North are reported as saying:

"You come to us and talk about animals and tell us to give up our grazing. And now we are telling you, we have been looking after these trees for ages and now you come and let someone else cut them without consulting us. And that is what you will do with the elephants too." (Madzudzo 1991, pers. comm.)

This tenurial niche is a delicate and difficult one. Not only do local villagers consider the trees theirs, but in the process of harvesting the trees, concessionaires use and may damage local land and resources. The lack of any requirement for concessionaires to replant or insure natural regeneration creates a model of profligate tree mining contrary to the general proselytizing of the Forestry Commission and the Department of Natural Resources. Local villagers have asked Forestry Commission personnel why they tell them not to cut down trees at the very time they are bringing in concessionaires to cut down the most valuable species. The response that this cutting is benefitting the nation is not very satisfying. The issues at hand can be seen in the cases of Muzarabani and Tsholotsho District Councils' claims to trees in their respective communal areas.

⁸ Nearly 70 years ago an identical case of overlapping niches occurred in respect to trees on private land. Said the author of the 1923 Annual Report of the Forestry Branch "In terms of the Mines and Minerals Ordinances prospectors and miners have the right to cut timber free of charge on all farms where the timber has been reserved to the government...The owner of the farm upon which the timber is reserved has no interest in the tree growth, for the more it is destroyed, the less chance there is of miners coming to his farm for wood. This is a state of affairs which should not be permitted to continue for it results in large areas remaining unproductive to the loss of the whole community." The lesson learned so painfully in 1923 has obviously been forgotten.

4.1 District Council's claims to trees in Muzarabani District

Based on the Communal Lands Act and the Communal Lands Forest Produce Act, the Muzarabani District Council argues that it is the local authority which controls all indigenous trees in the district. The Council's desire to have and exercise this authority is understandable. The Council, which has limited revenues and many obligations, estimates the potential value of tree resources to be Z\$250,000/annum. The Council believes itself to be entitled to harvest trees and tree products such as fruit from farmers' fields without compensating the farmer. Therefore the District Council proposed a *Colophospermum mopane*⁹ saw milling project intended to operate in precisely this fashion. *Colophospermum mopane* trees were to be harvested only from farmers' fields. No list of farmers or the number of trees harvested in their fields was kept. From the Council's point of view, not only were they entitled to do this, but they were also doing the farmers a favour by clearing fields for free. And, indeed, further west in the mid-Zambezi Valley farmers were reported to be burning huge *Colophospermum mopane* trees in order to clear their fields. Nonetheless, farmers have complained about the uncompensated taking of their trees. A new tree use project (wine making from *Ziziphus mauritania* fruit), if implemented, is intended to compensate the farmers; to "give the farmers an incentive to keep the trees." Further Council initiatives include an attempt to place a levy on bamboo products and fuelwood leaving the District. The issue of fuelwood (primarily *Colophospermum mopane*) cutting has an additional dimension because it involves cutting live trees.

4.2 District Council's claims to trees in Tsholotsho District

Since the mid 1980s a commercial timber company has been logging in the Dlamini wards under a concession from the District Council and the Forestry Commission. The wood is milled in Tsholotsho. The company has a regular crew which they supplement with local labour for loading and unloading from time to time. The District Council placed a prohibition on the cutting of commercial species by local people even for domestic use although they are permitted to collect dry logs and slash left by the logging company. Local people, who use these species for making doors and wooden plates, are angry because only small and poorly shaped trees have been left standing. Despite the prohibition, local people do cut these species especially for carvings for sale outside of the area.

Part of the displeasure with logging stems from a sense that this area has been neglected by the District Council. Even local people who do not oppose the logging operations say that the money from logging should be used for repairing local boreholes and maintaining roads. Some opposition is based on the perception that the sloppy logging operations "kill" the grass leading to a shortage of grazing and thatching grass.

Unhappiness with commercial logging was expressed in an interchange between the Wildlife Committee of Ward 2 of Tsholotsho North and the District Council:

⁹ *Colophospermum mopane* is used commercially for timber. Farmers use it for poles, firewood and as a source of edible caterpillars.

"Don't you think you are restricting us because you are only letting us use the elephants and you know that they don't always come. So why don't you let us use the trees which we can exploit right away. It has taken you so long to bring the control of the elephants to us because you were waiting for the resource to be depleted. So we would not be surprised if in five years you will ask us to take care of the trees when they have already been depleted." (Madzudzo 1991, pers. comm.)

As a result, the District Council said the villagers could look after the thatching grass and the mopane worms, but not the trees. (Madzudzo 1991, pers. comm.)

4.3 Strategy possibilities

Although trees claimed by District Councils on communal lands have been a contentious tenurial niche, it offers considerable opportunity for instituting more sustainable forest and woodland management and enhancing rural livelihoods. In this niche an existing programme for co-management of wildlife, CAMPFIRE¹⁰, offers a model for co-management of tree resources with local residents when trees are located on communal lands¹¹. Indeed, trees are particularly attractive candidates for the CAMPFIRE model since, unlike wildlife, they are stationary. Hence there is no ambiguity over which is the producer ward or village.

The experience of the CAMPFIRE program suggests that when the benefits from natural resource utilization are delivered separately from other development activities, poaching of the resource by the beneficiaries declines dramatically. In the Zimbabwe forestry sector co-management not only has the potential to reduce conflict over and poaching of forest resources, it also provides the opportunity to rectify the astonishing lack of any serious regeneration or replanting requirement in conjunction with commercial harvesting in communal areas.

Under a CAMPFIRE model, the smallest accountable units (producer villages or wards) would, in return for a reasonable share of the profits: patrol the area to prevent excessive, illegal or silviculturally inappropriate cutting; take steps to encourage natural regeneration; and, as appropriate, raise and plant seedlings to ensure that there would continue to be trees to harvest in the future. All decisions about tree utilization and management would be made in full consultation with the producing unit. In Districts where CAMPFIRE is already operating, trees could be incorporated into the on-going programme, since setting up another programme duplicates efforts, involving the commitment of scarce resources. Dealing with small groups would also alienate other members of the community. Where there is no CAMPFIRE, the same activities could be undertaken by existing natural resource agency personnel or by an NGO experienced in working in a participatory manner rather than establishing a new bureaucratic

¹⁰ Details of the CAMPFIRE programme can be found in Martin 1986 and Murphree, 1990.

¹¹ When trees are located on farmers' individually controlled and managed fields, the farmer should hold the rights to them.

structure.

Two conditions will be essential for the successful implementation of co-management in the forestry sector. First, it is vital that producer villages and wards receive a significant share of the profits, a share that *they* consider a fair return for their efforts. Here the experience with CAMPFIRE provides us with a warning. District Councils which face a real and pressing need to raise money to fund their many recurrent and development activities, have tended to seize upon CAMPFIRE as a solution to their financial problems. They have not always returned to the producing units a share that the residents of those areas consider to be consistent with their efforts and suffering. Second, consultation with the producing unit must be thorough (including *both* women and men) and genuine. We cannot warn strongly enough against *pro forma* consultation which generally results in an irritated and alienated producer unit.

5 MANAGEMENT OF INDIGENOUS WOODLAND IN COMMUNAL AND RESETTLEMENT AREAS

Management of indigenous woodland involves both the enforcement of national legislation by governmental authorities and control exercised by village authorities and institutions. As we shall see, management of indigenous woodland involves varying combinations of the four management mechanisms over time and in different places. No single management mechanism is effective in all situations. We examine each kind of control separately in this section using both the existing literature and information from our study sites.

5.1 Sacred controls

Zimbabwe has long been known for traditional religions which Schoffeleers (1979) has characterized as "profoundly ecological...[they] issue and enforce directives with regard to a community's use of its environment." These are directly related to the management of trees and woodlands. For example, Garbett (1969) found that baobabs (and, sometimes, other large trees) were usually chosen as land shrines. According to Bourdillon (1979) where there was an active spirit medium from the Lion Spirit Cult, the medium had to be consulted before new gardens (which would have required tree clearing) could be opened in the area.

These kinds of controls continue to be found¹² and are part of the evolving woodland management systems. For example, in its attempt to control deforestation, one VIDCO linked a revitalization of *mhondoro* cult prohibitions to a ban on cutting fruit trees such as *Uapaca kirkiana* (Wilson, 1987).

In all our study sites we found that people did not cut trees on burial sites and that there were certain trees which women reported should not be used for firewood either because they were associated with death or because of their reputed destructive social effects.

In Chamatamba people are not supposed to cut *Parinari curatellifolia* which is the tree under which one speaks to the ancestors. However, in practice, this prohibition seems to apply only to the trees which are regularly used for this purpose.

The greatest power of a spirit medium was found in Masoka, possibly due to relative isolation and homogeneity of the community. There are three sacred places in Masoka

¹² Matose (1991) reports that around Shurugwi tree cutting was forbidden in sacred groves. Mazambani (1991) reports that in Chivi/Zvishavane *Lonchocarpus capassa* and *Strychnos potatorum* were not cut for firewood or construction because of traditional belief. In the same area, Gumbo (1991, pers. comm.) states that two sacred sites, one a single tree, remain. Gumbo *et al.* (1989) report that cutting indigenous fruit trees in Chivi/Zvishavane is a breach of religious taboos and offenders may be fined a goat. Wilson (1987) reports sacred/socio-cultural restrictions in Mazvihwa on the cutting and/or use as firewood of *Ficus sp.*, *Lonchocarpus capassa*, *Pseudolachnostylis maprouneifolia*, *Gardenia spatulifolia*, and *Peltophorum africanum* as well as the protection of a sacred *Julbernardia globiflora* in Runde. He (1987:58,60) also notes the manipulation of religious beliefs to protect specific trees. Matowanyika (1991) found an individual sacred *Borassus aethiopum* in Kagore and noted that fruit collection and tree cutting was forbidden in burial sites. Jackson (pers. comm. 1991) reports that despite a severe fuelwood problem and a population of immigrants, the sacred grove in the midst of the Rusitu Valley Resettlement Scheme has remained intact.

ward where the local spirit medium forbids cutting of any tree. The spirit medium also forbids cutting of *Tamarindus indica* and *Azanza garckeana* wherever they grow. In the mid-1980s a local resident was evicted from the ward for collecting honey in one of the sacred places by cutting the sacred trees. Apparently the spirit medium had the support of two of the most powerful people in the ward, including the sub-chief. It could be that there were other reasons for wanting the culprit out of the ward but it is telling that the publicly articulated reason for the eviction centred on the cutting of what was described as "very powerful trees". Yet, despite the apparent power of the spirit medium, women interviewed in Masoka were adamant that he would not be able to institute new regulations to curtail *Colophospermum mopane* felling.

Schoffeleers (1979:5-6) observed that traditional religious cults with ecological functions "are necessarily communal institutions involving the entire population of a geographic area in a system of common obligations." It is precisely these conditions which are disappearing in rural Zimbabwe, and a common theme among many observers is the steady weakening of sacred controls. Matowanyika (1991) found that 77 percent of his sample felt that the introduction of Christianity and/or Western ideas was the cause of the breakdown of indigenous regulation. In addition, immigrants had less knowledge of sacred areas and were believed by local people to be more likely to violate them. McGregor (1989:7-8,39) noted for Shurugwi that traditionally woodland access was controlled and that these controls are breaking down:

" [There are] certain areas of woodland where cutting is prohibited and guarded by a lion spirit ... or certain species are protected due to their significance in rituals. Some trees cannot be used as firewood e.g. *Pseudolachnostylis maprouneifolia* is used by herbalists who exorcise avenging ancestral spirits into the tree and *mupanda* is said to attract lightening to the home if cut. Under stress these controls give way, in Shurugwi many of the species which should not be burnt are in fact being burnt. In explaining this change in species used, some say they do not know of the old restrictions, others think that such things are only for old women, and others just refer to the problems they are having in acquiring wood. ...We even found cases of families burning exclusively trees with customary prohibitions..."

Immigrants are often blamed for the violation of sacred groves. For example, Gumbo (1991, pers. comm.) reports that immigrants in Chivi/Zvishavane often do not observe sacred traditions thus reducing the effectiveness of community management strategies. "This is a sacred tree for *you*," they say. But Mukamuri (1991 pers. comm.) points out that some traditional guardians protect these areas for their own ends. He describes a "sacred hill with a haircut" where the forest was encroached on by well-established fields belonging to the members of the ruling elite and their friends. At the top was an abandoned field which belonged to a latecomer who was forced to relinquish his encroachment.

Such tensions between spirit mediums and newcomers were particularly apparent in the mid-Zambezi Valley Project and in Kanyati.

In the Mid-Zambezi Valley project area, traditional authorities lost control of the allocation of land with the initiation of the project. Spirit mediums prohibit cutting of *Adansonia digitalis*, *Ficus sonderi* and *Tamarindus indica*, and cultivation of land within 50-100 metres of a baobab tree. However, the project has allocated land in places seen as sacred by the spirit mediums. Owing to population pressures those allocated a plot can ill-afford to pay attention to the spirit mediums. Immigrants are known to trespass on sacred places. Traditional authorities thus accuse immigrants of "ruining the land" as they do not listen to the "owners of the land", while immigrants counter by deploying a different cosmology, namely "we are God's children, we do not speak to Satan." In other instances the immigrant justification is that prohibitions are too difficult to adhere to and that the spirits will not mind if they depart from strict observance. Traditional controls are thus being eroded both by government action and by the immigrants out of necessity. Nevertheless there are still sacred areas, such as the site of the rainmaking ceremonies, where people do not cut trees.

The authority of the "lion spirit" medium who resides in a Kanyati village appears to have been curtailed by the establishment of new institutions by the project. Whatever pretensions the medium may have had have been checked by district administration and his role is now peripheral. Local residents generally do not revere the medium, possibly because of the influence of Christian churches or perhaps because immigrants do not feel obliged to pay allegiance to a "strange" medium.

5.2 Pragmatic controls

The most common pragmatic control is the general prohibition on cutting fruit trees¹³. In all our study sites people refrain from cutting fruit trees for firewood or any other purpose unless the tree is already dead.

There was also a general prohibition against cutting any live trees for firewood. In Masoka people said "since we know that trees protect us from the wind, we pick the trees that are fallen - that's how we pick our firewood - we do not cut the trees." While women were not always able to comply with this restriction due to fuelwood shortages, they spoke of their non-compliance as something they regretted. Perhaps to symbolize that they were in fact stewards of the land and trees, respondents in all sites made a point of saying no one should cut down a tree unless they intended to use it.

Other pragmatic prohibitions are more site specific. Scoones (1988:2) states that Mazvihwa farmers manage *Acacia* woodlands for pod production and to reduce shading by tall trees. Wilson (n.d.) notes first that people object to cutting *Colophospermum mopane* trees near villages in order to protect them as a source of edible caterpillars and second that people do not cut some trees in their fields because they improve the soil fertility. Matowanyika (1991) reports that debarked trees were supposed to be cut to the base in order to encourage coppicing and that people were not supposed to climb trees to collect fruit. In Chikafa (mid-Zambezi Valley Project) despite a desperate shortage

¹³ This has been recorded for Shurugwi (McGregor, 1989:7); Mazvihwa (Wilson, 1987); Kagore (Matowanyika 1991) and Chivi (Gumbo *et al.* 1989).

of wood, baobab and *Ziziphus mauritania* trees are left standing because they have multiple uses including the sale of *Ziziphus mauritania* fruit outside of the project area.

A number of women in various sites said trees should not be felled because they bring rain. Whether they actually believed this is another question. A few women said trees should be protected because they provide shelter from the wind and one woman had left specific trees around her compound for this purpose.

5.3 The civil contract

Gumbo (1991 pers. comm.) reported that individual claims to the produce of specific trees in the communal woodlands in Chivi could be staked by tying a rope around the tree or building a thorn fence around it. These activities had to be undertaken after the winter when all resources are used on an open access basis¹⁴. However, it should be noted that Gumbo *et al.* (1989:16) state that in the same area "collection of fruits under communal land tenure is based on a first-come first-served." Matowanyika (1991) found that individual claims to trees for the placement of beehives and for collecting caterpillars could be made for the period of use in Kagore.

Women in all our sites except the Mid-Zambezi Valley said that wild fruit is an open access resource and cannot be marked to reserve it for any particular person. That is, use is on a first-come, first served basis. Women expressed this idea as follows:

If it is in the bush, it can not be fenced.

They [the trees] belong to the forest.

In contrast, key informants in the Mid-Zambezi Valley reported that *Ziziphus mauritania* fruits can be claimed by clearing the ground surrounding the tree and encircling it with thorny bushes. In the event others collect the fruit from a marked tree, the tree "owner" can recover the fruit from the thief. Honey tends to be gathered on a first come first served basis in this area.

There did not appear to be any prior rights that could be claimed by an individual to trees or their products in the woodlands in Masoka, Dlamini or Kanyati. In all three places it was assumed that an individual would only collect the amount he/she actually intended to use.

In Mushandike if one notices a tree with caterpillars in the forest, one usually cuts the branches of the tree and brings them home to place in a tree which can be easily monitored while the caterpillars mature. Homemade beehives left in the forest are usually not touched by anybody because the hive could have been "fixed", that is, treated magically to ensure that nasty things would happen to any honey thief. This is an

¹⁴ Open access use of a resource is not regulated or controlled by any social institution implying that anyone may use the resource in any way or quantity she/he may choose. This is distinct from common property which is controlled and used by an identifiable group.

example of the intersection of sacred and civil controls.

The beginning of the breakdown of the civil contract is indicated by the theft of piles of fuelwood left for later collection as fuelwood becomes scarce (Macgregor 1989; Gumbo 1991 pers. comm.). The emergence of the theft of firewood as fuelwood became scarce was reported for Chikafa Village (Mid-Zambezi Valley Project) and key informants in Masvingo. In both places this kind of theft was reported as emerging in the last decade. These thefts were reported to be perpetrated by and against long-standing residents and immigrants equally. Firewood and poles left for later collection in Chamatamba were reported to be almost certain to be stolen, although if the culprit is caught, s/he would be asked to return the wood to the cutter. Opinions among Mushandike residents were divided on whether or not wood bundled up and left in the forest for later collection would be stolen. In the irrigated village it was less likely to occur than in the other two villages which now seem to be wood-deficient. In Tsholotsho and Mashumbi Pools (mid-Zambezi Valley Project), because of fuelwood's relative availability, women can gather it and leave it in the forest for later collection.

A major assumption of the civil contract concerning communal woodlands is that the woodlands will remain communal. However, in some areas the assumption is being breached as private individuals annex communal woodland in Manicaland, Nyanga, Gweru, and Gutu (Matose, 1991; Tasosa, 1991 pers. comm.; Gumbo, 1991 pers. comm.) Mvududu (1991 pers. comm.) suggests that this is a strategy to prevent the land from being allocated to outsiders; yet another reminder that what may be at stake is the land under the trees rather than the trees themselves.

5.4 New institutions and rules

Wilson (1987) reports on the attempts of VIDCOs to assert authority over trees. As noted above, one VIDCO made it illegal to cut fruit trees such as *Uapaca kirkiana*. In Chivi a serious dispute erupted when outsiders ignored VIDCO cutting regulations. In that case the councillor stated that no community could claim exclusive rights to a resource. Matose (1991) states that in Shurugwi no one is supposed to cut trees without the written permission of the VIDCO. Muchukuchi (1991) reports that in Bulilimangwe outsiders have been cutting down *Colophospermum mopane* trees (some estimates are as high as every third tree) in order to harvest mopane worms for sale as quickly as possible. According to Muchukuchi, "Provincial authorities have introduced a bye-law forbidding the harvesting of worms by 'outsiders'."

ZIRRCON (1991) describes an attempt to harness the strengths of traditional and new religions in reforestation. In 1988 the Association of Zimbabwean Traditional Ecologists (AZTREC), an organization of spirit mediums, chiefs and ex-combatants, was formed and subsequently established six nurseries. Drawing on the role of spirit mediums in the Independence Struggle, AZTREC declared "The War of the Trees".

"they send delegations to the oracular cave centre of Mwari in the Matopo hills to inform the deity--who retains final authority over the now extended liberation struggle of Zimbabwe--and to obtain divine instructions for the War of

the Trees. (ZIRRCO 1991)."

An allied parallel organization, the Association of African Earthkeeping Churches (AAEC), comprising 40 African Independent Churches, was formed in 1991 and established four church nurseries. Stemming from an ecological theology based on Christian principles, it too has entered into the "War of the Trees".

"The unfolding War of the Trees is being interpreted in prophetic circles as the movement of the earthkeeping (Holy) Spirit who seeks to heal the land by clothing it once again with life restoring vegetation...In the baptismal context ecologically active prophets reveal that the Spirit expects novices to confess not only their moral sins in a society of disturbed human relations but also their ecological sins: chopping down trees without planting any in return...these prophets increasingly brand offenses which cause firewood shortages, soil erosion and poor crops as a form of wizardry (*uroyi*)--the gravest of all sins, threatening human survival, life itself." (ZIRRCO, 1991:12-13)¹⁵.

We found little evidence of the effect of this new ecological theology on tree planting or tree management.

Nhira (1990) relates that before the land-use project got under way in Kanyati, the Department of Natural Resources, perceiving a threat to the environment posed by the not-so-controlled settlement, approached Nyaminyami District Council with a view to exhorting Kanyati residents about the need to preserve the environment. Natural Resource Overseers were elected for every village in the area. These overseers work with the VIDCOs in monitoring the use of the woodlands. For example, before one can cut a tree outside of one's fields, one is supposed to ask permission from both the resource overseer and the VIDCO chairperson. This process is not strictly adhered to because of the general perception that trees are a plentiful resource and that one cannot stop one's neighbours having access to a resource they legitimately want to use. However, these structures have been relatively effective in barring outsiders or residents of other VIDCOs from using *Colophospermum mopane* trees and bamboo, but this cannot be said of other tree species or forest products. Wildlife committees under the CAMPFIRE programme have been established and to date have received dividends from the District Wildlife Trust. Game guards who work directly under Nyaminyami District Wildlife Trust have been seconded to Kanyati. Their duties include policing tree cutting in the area.

Kanyati villagers requested the District Administrator and police to set up a police constabulary to prevent the poaching of *Oxytenanthera abyssinica* (used for making baskets and mats) by residents of the neighbouring village. This particular incident raises

¹⁵ By early 1992 the "unfolding War of the Trees" had become an intra-organisational war over the EEC vehicles and funds and the two organisations had badly splintered (ZIS, 1991; Herald Reporter, Masvingo, 1992).

a number of issues. First, the villagers were unwilling to establish an unpaid volunteer patrol of their own. Rather they wanted the largesse of the State to be made available for this purpose. The fact that they reside in a heavily subsidised scheme may have influenced the development of this attitude. Second, the very existence of the problem was a result of immigration and the emergence of competing claims to the resource. The Kanyati villagers felt that the trees which were within their VIDCO boundary were clearly theirs and should not be taken by others. The others, one can well imagine, who had been using these trees long before any of the present Kanyati residents had even heard of the area, probably failed to see why they should relinquish rights to resources they had always used. Gumbo (1991 pers. comm.) suggests that this sort of conflict will increase as new and clearly defined boundaries are designated.

The picture that emerges is one of a multiplicity of institutions to control the usage of trees in the area without clearly elaborated regulatory functions, thus creating the potential for conflict between these institutions.

In Masoka, the Ward Wildlife Committee is emerging as a powerful institution because of its control over resources. A new school was built using part of the first wildlife dividends paid to the ward by the District Council. Before the school was built, local school children had to walk 30 km to the nearest village with a school, stay there all week in little huts built by their parents and cook for themselves and return to the ward at the weekend walking through a forest full of dangerous wildlife. Another year households received Z\$200 each from the wildlife dividends. Game guards are to be appointed whose duties may encompass the monitoring of tree usage. Ward members who participate in training courses on wildlife management are taught not to cut trees haphazardly, not to cut trees near the villages, not to cut live trees except when clearing the land for agriculture and to cut branches instead of the whole tree wherever possible. No specific rules and penalties have been elaborated. Indeed community opinion seems to be divided on this; some pointing out that they do not need rules because they have to cut trees of necessity while others point out that there is need for rules to guard against those who cut down trees for no apparent reason. This is consistent with Cutshall's (1989:20/21) finding that:

"[E]very household surveyed supported the notion of woodland conservation, and argued that the cutting of trees needed to be controlled in some way, to prevent over-exploitation. Respondents were, however, somewhat vague about the type of controls which they would like to see imposed, and when asked to cite a specific way of regulating the use of collective woodland resources, 55.9 percent failed to cite any specific type of regulations."

"Of those respondents who did answer with specific suggestions (n=26), 73.1 percent suggested some form of community by-law which could be enforced against individuals who indiscriminately over-exploited woodland resources. A similar number of respondents who cited specific types of regulation emphasized more informal controls such as public education and/or social pressure. Only one respondent suggested planting trees to replace those being taken off or cleared for domestic consumption or to

make way for new settlement or agricultural development. Finally, one respondent suggested that trees should only be cleared when there was a real need to do so, and the stockpiling of firewood ought to be prohibited through some type of formal regulation."

In the more densely settled parts of Tsholotsho the residents of some lines try to restrict the use of the trees in their grazing areas to line residents only. One VIDCO had instituted a penalty (usually work at the school) for cutting a live tree in order to gather honey.

No new institutions were found to have any effect on tree management in the Mid-Zambezi Valley. Project management do not seem to have concerned themselves with the sustainable utilization of the woodlands apart from attempts to control the number of livestock. The Department of Natural Resources is active in the area but seems to be concentrating on education rather than orchestrating programmes of management. There do not seem to be any restrictions on people from one village collecting trees from another village. Indeed VIDCOs do not seem to be actively engaged in woodland conservation.

In Chamatamba anyone who cuts the big fruit trees can be reported to the Department of Natural Resources for prosecution. The Grazing Committee is using fencing material supplied by the Department of Natural Resources and the District Development Fund to fence in areas of woodlands and woodlots for protection. For whose benefit this is being done is not clear. Under the rules of the Grazing Scheme, dry wood may be used by anyone while people may cut wood to repair paddocks. People from other villages are not allowed to use the areas used by Chamatamba and would be denied permission were they to ask. Supposedly five men voluntarily monitor tree use for the Grazing Committee. If an outsider is found cutting/collecting poles or firewood, the wood is taken from them. In general the village leaders would prefer encouraging tree planting to the institution of new rules.

Government-imposed regulations on the Mushandike scheme allow tree cutting in the first year of settlement and thereafter to be strictly controlled by the resettlement officer and extension personnel. This ruling has not been enforced since outsiders have access to the resource and government personnel promote the building of brick houses, cattle kraals and tool sheds which require poles. The VIDCOs are said to monitor tree cutting and can ask anybody why they are cutting a tree. If the reason is not good enough the person can be stopped. None of the respondents knew of anyone who had been stopped from cutting.

The rampant exploitation of tree resources in the scheme by outsiders is discussed below. In the irrigated village some attempt is made by the VIDCO to control outsiders but they do not go beyond impounding the logs from the culprit. Resettlement farmers are of the opinion that government should erect fences and have guards who would physically patrol the area.

In several of the lines in Dlamini informants said that only people who reside in the line

are permitted to harvest from woodlands close to the line. While the *sabhukus*¹⁶ are supposed to ensure that their people observe this rule; one *sabhuku* pointed out that they can do very little since only government can enforce laws. Some informants said that if somebody were found harvesting in woodlands where s/he did not reside, the wood would be impounded. Others said that s/he would be warned but allowed to take the wood. Still others asserted that the lines are simply too far away from each other for residents of one line to want to harvest in another line.

The Ward Committee of Ward 1 of Dhlamini in Tsholotcho district had made a standing order that no one should cut a tree without using it and that trees should not be cut to get access to honey. Everybody in the ward has the responsibility of seeing that the standing order is adhered to and can bring offenders to the committee. The usual penalty is for the culprit to provide free labour at a school.

5.5 Special problems of resettlement schemes

Resettlement schemes have three special problems with regard to their management of indigenous woodlands. First, they must live with the results of the management decisions of the commercial farmers who previously owned the land. For example, the residents of the Mushandike Resettlement Scheme remarked on the scarcity of fruit trees. "I haven't eaten fruit since I got here" said one old woman. Second, they are constrained by the dictates of the resettlement authority. They must build "good" houses. They must clear and destump their fields¹⁷. Third, they must struggle to establish and protect their rights to the trees on the land against the claims of the residents of the adjacent communal areas. Theft of firewood from resettlement areas by residents of the adjacent communal areas is frequent and blatant. While we interviewed residents of Mushandike Resettlement Scheme, two parties with scotch carts heavily loaded with firewood calmly proceeded down the road in broad daylight. The irrigated village suffers less from such poaching because of the distances involved. Tree cutting is careless in that sometimes trees are cut but not removed, cutting is not spaced, trees are cut to harvest honey and some trees are felled using fire to reduce the amount of labour expended. Wood poachers interviewed reported that they could not request access to the woodlands as they were not gathering from anybody's fields nor did they know from whom to ask permission. They asserted that they had used the woodlands when the farms were still private property. They claimed that the area rightfully belongs to them. Some resettlement scheme residents said that they were reluctant to stop the poaching since they relied for their water supplies on boreholes in the village of the poachers. Thus far resettlement authorities have been unable to stop the poaching. Some wood poached is sold in Masvingo town.

¹⁶ *Sabhukus* (also known as kraalheads) are village or sub-village level officials created by the colonial administration. They are now generally classed as "traditional leaders".

¹⁷ Focusing on residents' management of indigenous woodland may well be like rearranging the deck chairs on the Titanic if resettlement officers persist in requiring settlers to remove all trees from arable fields, clear land for housing, and practise crop agriculture in a semi-arid area that may be best suited for raising cattle.

5.6 Strategy possibilities

A major management issue for this tenorial niche is the control of the activities and demands of outsiders. We have already noted villagers' frustration over their inability to control either the allocation of timber harvesting concessions in communal areas by District Councils or the activities of the concessionaires themselves. In addition, it is often difficult for villagers to exercise the same kind of control over new migrants, particularly those from a different tradition, that they exercise over people with kin ties in the village. Thus, traditional controls begin to erode with the introduction of new residents and, sometimes, new religious beliefs.

Another problem which originates from the outside is commercial demand for local tree products. Gumbo (1991 pers. comm.) suggests that while much firewood is bought legally from commercial farms, some operators induce residents of the communal areas to cut and sell them firewood. The root of the problem of outside temptations itself lies in the compelling need for income experienced by many households in the communal and resettlement areas. It is hard for people to interfere with their neighbours' struggle for a livelihood by enforcing bans on the sale of tree products.

As boundaries are increasingly being formalized around villages, wards, and lines, conflict over the use and management of trees is arising between and among these social units.

With increasing population pressure and a dwindling resource base, the management of this niche through sacred controls and the civil contract would, except in special circumstances, seem to be increasingly problematic. This means that the conditions for the communal management of this common pool resource must be deliberately nurtured.

In their examination of common property in India, Arnold and Stewart (1991:22) suggest that there are three institutional requirements for viable communal management of common pool resources such as woodlands¹⁸:

- 1 Security of tenure to specific user groups
- 2 Use regulations evolved and enforced locally
- 3 Development and reinvestment

As we have seen above, each of these is problematic at present, but none are intractable.

The institution and expansion of effective woodland management will require the reduction, and preferably the elimination, of tenorial uncertainty. That is, as long as villagers believe that the government can and will come in at any time and seize their woodland resources for its own purposes, they are unlikely to spend much energy on

¹⁸ Ostrom (1990:90) suggests seven principles: i) Clearly defined boundaries of the resource, and households or individuals entitled to use it also clearly defined; (ii) Congruence between appropriation and provision rules and local conditions; (iii) Most individuals affected by the operational rules can participate in modifying them; (iv) Monitoring; (v) Graduated sanctions; (vi) Low cost, rapid access conflict resolution mechanisms; (vii) Rights of appropriators to devise their own institutions are not challenged by external governmental authorities

woodland management. Security of tenure will require the clear assignment of specific pieces of land to specific user groups. As we have seen, District Councils' claims to trees in communal lands undermine this security, as do refusals to support local attempts to manage their resources. In this regard, an examination of the provisions of the Mining Act and the Communal Forest Produce Act, which allow claims on the trees or land of the indigenous woodlands by outside institutions, individuals or agencies of government, should be undertaken and appropriate remedies devised.

Second, the imposition of externally derived rules will have to be replaced by more time consuming and less predictable but, in the long run more effective, locally evolved rules. Actions in this niche will depend on the social organization of particular localities and redundancy (that is multiple organisational means to the same end) is probably a good policy. (That is, there is nothing wrong with having management initiatives launched through different institutions as long as those actions are compatible or reconcilable.) Where traditional religious leaders are strong, religious strictures may continue to protect trees and woodlands. The incorporation of an ecological morality into churches is certainly worth exploring, although ecological sins are probably likely to be as persistent as other kinds. Systematic encouragement of tree planting and protection by religious formal and informal institutions should definitely be promoted. Where political leaders are strong, forest management could be channelled through a VIDCO or WARDCO or Ward Wildlife Committee. Special care must be taken to include women in formal decision making processes as they are daily users of wood resources and the first to suffer as these resources become scarce. At present many women are still excluded either deliberately or inadvertently from deliberations and decision making about natural resources.

Development and reinvestment would involve replanting and managing existing trees for regeneration. Obviously villagers are not going to be filled with much enthusiasm for managing their woodlands if they see government using these same resources in an apparently profligate manner. This calls for a more sustainable approach to commercial timber harvesting, particularly when it is practised on communal lands, as well as a re-examination of requirements to clear and destump arable land in resettlement schemes and elsewhere. This will require action not only by the Forestry Commission but also by other institutions that control or affect woodlands such as NPWLM and AGRITEX.

Particular attention needs to be given to three kinds of outsiders: those within the community, i.e. immigrants; outsiders who take trees and tree products for subsistence purposes; and outsiders who harvest trees for commercial purposes or entice others to do so for them. Assuming that villagers are confident that the trees are truly theirs, the three sorts of outsiders should be approached differently.

Immigrants have been criticized for disobeying the rules of the spirit mediums. Since wholesale religious conversion is unlikely, they need to be appealed to on other grounds. Pragmatic controls are the most likely candidate for success. It might be worth exploring how to increase the income generating potential of trees particularly as an inducement to conserve trees in tree-rich areas. To list a few examples: could villages undertake to protect and grow trees with medicinal properties on contract to traditional healers? Could they contract with carvers to provide a regular supply of suitable wood? Could

they lease plots to ecological researchers?

In dealing with outsiders who take wood for subsistence purposes, care must be taken to set up a win-win situation. That is, punitive exclusionary measures are likely simply to generate resistance and subterfuge. Rather efforts should be made to incorporate outside users into a joint management strategy. This might involve establishing woodlots or nurseries of both fast growing and indigenous species and the joint establishment and enforcement of use rules.

Dealing with outsiders who take or entice others into taking tree products for commercial purposes will probably require the power of the State to protect the integrity of village boundaries.

Finally, the process of annexation of communal woodland by private individuals must be addressed with a clear and vigorously enforced policy. Annexation can have the short-term beneficial effect of ensuring that trees are protected although in the long term they may be harvested. In both the short and long term it has a negative equity effect. The present lack of a clear and vigorous stance towards annexation means that *de facto* its occurrence is accepted.

In strengthening the protection and management of the indigenous woodland, special care must be taken to ensure that those who depend primarily on this niche are not hurt by the institution of new management regimes. Women and the poor are often dependent on this niche for a variety of products. Their needs and their use of this niche must be taken into account in the design of any new strategies for management.

6 TREES PLANTED/PROTECTED BY GROUPS AND INSTITUTIONS

Management here primarily involves the exclusion of non-members and the establishment of a system for providing trees with the necessary care and for distributing benefits to group members. Although many groups are involved in tree planting, there is almost no literature on them aside from litanies of the number of trees, and the species, that they have planted. Occasionally survival rates are revealed. The processes by which these rates are achieved are largely a mystery. Gumbo (1991 pers. comm.) asserts that schools and clinics do the best job of managing trees. Grundy (1991 pers. comm.) reports that in Shurugwi the community pays for the right to cut trees in school woodlots. Often new institutions are used to protect the efforts of tree planting groups. Gumbo (1991:17) reports that increasingly VIDCOs are requesting VIDCO police to deal with vandalism around community woodlots. Other than this he reports "there are no known management strategies for woodlots." Cousins (1990) reports that by-laws may stipulate that tree cutting can only be done on grazing schemes with the permission of the grazing scheme committee.

In the study sites groups were planting trees in Bende (fruit trees), Kanyati (woodlots under the direction of the project), Masvingo (school: indigenous trees), Chamatamba (school and grazing scheme: gum and fruit trees). Since we could not do interviews in Bende we can not assess that effort. The Masvingo trees were planted in 1990/91 and suffered from the drought. The Chamatamba school tree planting project has won the national competition on several occasions. The fenced school grounds are covered with patches of eucalypts which provide the school teachers with firewood. Each *sabhuku* is also supposed to organize his constituents to plant such trees for their use. In fact almost all existing woodlots are private. The village has been able to obtain state resources in the form of wire and fence posts to defend trees. Unfortunately the effort to protect the village woodlands has had the effect of inconveniencing women who are now defined as "stealing" firewood from the area where they have traditionally gathered it. The planting of *Eucalyptus* spp. and the introduction of fuel-efficient stoves and biogas has not yet eliminated their need to use this resource.

Project management in Kanyati instigated the planting of 5 ha eucalypt woodlots in all VIDCOs at the rate of 1 ha per year per woodlot. The rationale was that since people would continue cutting trees in the woodlands, woodlots of fast-growing species should be established to relieve the pressure on the indigenous woodlands. Project management now question this decision and are beginning to explore other types of interventions such as agroforestry, and are looking for more suitable species of trees. These woodlots are under the control of the VIDCOs but no rules of use have been generated, presumably because the trees are still young. But people have been enthusiastic since it is a type of intervention they have been exposed to over a long period of time. Seedlings and fencing are provided by the project which has one central nursery in which mainly eucalypt seedlings are raised. Further decentralization of the nurseries is not envisaged because of the cost involved. Two schools in the area have planted *Eucalyptus* spp., *Jacaranda* spp. and guava trees in their school grounds from their own nurseries. One school is in the process of raising indigenous tree seedlings but their efforts are being hampered by the lack of fencing and water.

There are no tree planting groups in the Dlamini area. However, one school had recently planted about 350 eucalypt seedlings in the school grounds. No tree planting groups operate in the Mushandike scheme. Farmers complained that they had been promised eucalypt seedlings by government so that they could establish woodlots but so far nothing had been done.

6.1 Strategy possibilities

Available evidence would suggest that schools and clinics are the most successful in this niche, probably because they are year-round, government-funded institutions which often have a reliable water supply nearby and a reliable source of labour. A general rule of thumb with group tree planting projects is that it should be clear from the outset who will perform what duties when and how and when particular benefits will be distributed. If a group is small, it may have to rely on physical rather than social fences to protect its trees. Extension workers should probably focus their attention on existing groups, including churches and women's groups rather than forming new ones. Indeed the plethora of new institutions described here suggests that if a new institution is needed, people will organize one themselves.

7 TREES PLANTED AND PROTECTED BY INDIVIDUALS ON INDIVIDUALLY-CONTROLLED LAND

Trees planted or protected in homesteads and crop fields comprise an important part of the social forest. Gumbo (1991, pers. comm.) argues that as community strategies break down, households respond with individual management strategies such as tree planting on their own land and therefore the importance of this niche will increase over time. This process may be hastened if communal woodland continues to be annexed by private individuals. The management of privately controlled trees entails the exclusion and/or control of use by others.

7.1 Sacred control

Gumbo *et al.* (1989) report that among the Karanga large fruit trees, especially *Parinaria curatellifolia* are considered to be an advantage to the homestead since they are the home of ancestral spirits. One man in Tsholotsho asserted that if anyone other than a member of his household attempted to pick fruit from his trees, they would stick to the tree because he had "fixed" it.

7.2 Pragmatic control

There is considerable evidence that people preferentially save fruit trees in their fields despite the vigorous insistence of colonial and post-Independence agricultural authorities that arable fields ought to be cleared and stumped (Gumbo *et al.* 1989; Campbell, 1987). These trees not only are a source of food, but some of them may have beneficial effects on the crops (or, at the very least, fail to harm them) (Deweese, pers. comm. 1991).

7.3 The civil contract

Available literature suggests that different norms may apply depending on whether the tree is exotic or indigenous and on where it is planted. Mazambani (1991:25-26) reports that in Chivi/Zvishavane indigenous fruit trees in fields are open access resources unless the field has been fenced or is close to the home.

In all our sites people planted and protected trees in their compound (a total of 18 exotic and 35 indigenous species with mango and guava being the most common exotic species and *Parinari curatellifolia* and *Diospycos mespiliformis* being the most common indigenous species). While fruit trees were particularly popular, non-fruit trees were protected for their use for firewood, poles, shade, medicine, windbreaks, lightning prevention and boundary markers.

Although the number and variety of trees seemed to be directly related to household wealth, even the poorest households had both planted and protected trees in the compound. In Chamatamba many of the fruit trees were sources of income as fruit buyers from the high density Harare suburb of Mbare came to the village to buy fruit. In the Mid-Zambezi Valley, there is a market for *Ziziphus mauritania* fruit and villages were reported to have a central collection point for this product.

In general people who did not live in the compound could not take fruit from compound

trees without asking permission, although some variations on this were found on a household (rather than a village) basis. In some households relatives could help themselves to fruit. In others wild fruit in a compound was treated as an open access good. Children received a special fruit-taking dispensation from some households. The rule about asking permission seemed to be rarely, if ever, breached. In most cases there was no mechanism other than embarrassment for punishing an offender, although a few people said they would take a thief to the *sabhuku*, chief or VIDCO chair to have him/her fined, particularly if the fruit was to be sold.

In general the person who planted the tree was reported to control its products, particularly for sale, although some trees were reported to be under the control of "the household."

There was considerable variation over which private individuals (as distinct from District Councils discussed above) could use trees in arable fields. For the most part, these trees were naturally regenerating indigenous trees but some people plant exotics in fields close to the homestead. One man in Tsholotsho asserted that trees in fenced arable land were just the same as the crops. In the Mid-Zambezi Valley, these trees were seen as belonging to the plot holder and should not be used without permission. Women in Masvingo asserted that these trees were open access resources in the dry season, but could be used only by relatives during the cropping season when tree use could result in crop damage. In Kanyati and Tsholotsho these trees were considered to be open access goods since they were "planted by God." In Masoka immigrants might be refused access to these trees. Because the arable land is fenced off throughout the villages visited in Dlamini ward, these trees are considered to be agricultural crops. Permission has to be sought from the owner before such trees can be used. In one instance the owner of an *Azanza garckeana* tree planted in a field said that he had applied some "medicine" to a tree so that if somebody plucked the fruit without permission s/he would stick to the tree and would only be disentangled when the owner was given compensation. In Chamatamba fruit on indigenous trees in arable fields which ripens during the dry season is an open access good but the trees can not be cut by others.

7.4 Strategy possibilities

This is certainly the most successful niche in terms of the planting and protecting of a number of exotic species and protecting certain indigenous species. Since protection of trees from livestock and tree products from theft is fairly easy, it is a niche with considerable potential. Depending on the availability of water, homesteads might be an appropriate place for the establishment of nurseries (perhaps in conjunction with a co-management policy). While the produce from trees planted in the homestead is secure from theft, respondents face a number of disincentives in regards to planting trees even in that secure tenurial niche. Respondents reported problems of insufficient water and over abundant termites. They receive relatively little help from the extension service which is positively hostile to trees in the arable fields including on contours on which farmers would like to plant. Further, with the exception of the fledgling agro-forestry programme, extension services have few tree planting packages. In any event, there are only a few tree-based technologies (including agroforestry technologies) suitable for the poor soils and semi-arid conditions characteristic of most communal and resettlement

areas. Finally, seedlings of only a few species are available, almost all exotic, while people would also like to plant indigenous species¹⁹. All of these problems must be addressed if tree planting is to be increased.

Arable fields, instead of being relentlessly destumped, could be enhanced with nitrogen-fixing trees (such as *Faidherbia albida* which has the additional virtue of being leafless in the cropping season) and other forms of agroforestry. Harvesting of trees growing in farmers' fields by District Council should involve permission from, and direct payment to, the farmer.

A tenurial problem which must be addressed in this niche is the tenurial insecurity of women. Divorcees lose all rights to the land and trees they have planted. Widows' ability to retain rights often depends on the good will of the heir (Fortmann 1991).

¹⁹ Women interviewed named 18 indigenous species for firewood; 11 indigenous species were being burned the morning of the interview; 27 indigenous species were used as medicine for stomach ailments, 2 for headache, 2 for teeth, 1 for eyes, 9 indigenous species for coughs, 2 for malaria, 1 for dizziness, 4 for wounds, 1 for chills; 44 indigenous fruit species and 33 indigenous fodder species were named; 13 indigenous species were used for axe handles, 8 indigenous species for yokes, 10 indigenous species for mortars, 10 indigenous species for stools; 8 indigenous species provided food other than fruit and 17 indigenous species had religious or magical significance.

8 CONCLUSIONS

The obvious conclusion is that there cannot be a single blanket forestry policy. Rather, it is essential that the social and ecological diversity of any country's social forest be met with a diversity of policies and approaches reflective of specific local conditions and specific tenurial niches.

Second, tenurial niches must be recognized as evolving rather than static forms of social organization, even when their legal status remains static. For example, indigenous woodlands in many areas are undergoing piecemeal conversion from common property to private property as they are annexed by individuals who fence them for their exclusive personal use. They are also undergoing what Matose (1992 pers. comm.) calls "group privatization" when they are the sites of community woodlot plantings which tend to benefit the wealthier members of the community disproportionately (see Fortmann and Nabane 1992). The *de facto* rather than *de jure* status of commercial farm land has also fluctuated between greater and lesser private control. At some times the woodland resources of commercial farms (both large scale and small scale) have been used on an open access basis by residents of nearby communal areas. At other times there has been greater (but never total) private control of the resource. The ongoing changes, then, are far from being a steady march towards privatization. Rather, woodlands and tree resources continue to be contested in an evolving tenurial terrain.

Finally, it is important to accept that the processes of protecting and enhancing the social forest are bound to include some moments of apparent failure, but that the very process of trying, failing, learning and trying again will strengthen the local capacity for management and action which in the end will ensure the continued existence of the social forest²⁰. The obvious corollary is that the urgency of establishing and strengthening sustainable management (particularly, in the Zimbabwean case, on communal lands) should not lead to the temptation to accomplish this by government-dictated rules. Rather, the rules must be evolved and enforced locally. Government's job on communal lands will be to provide technical information and guidance to ensure (within the limits of existing technical knowledge) that such management regimes will indeed lead to sustainability and to put the power of the State behind locally-generated regimes. This will require the creation or strengthening of institutional linkages to ensure that the resources and experiences of the full panoply of natural resource related agencies are utilized in a complementary manner on the ground.

²⁰ This principle is articulated well in Ministry of Local Government, Rural and Urban Development (1992): "Neither crises nor mistakes are avoided, rather they are seen as valuable learning opportunities and are worked through with the relevant responsible institution so as to maximize the learning experience. Steps in the learning process cannot be jumped."

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APPENDIX A: METHODS

Field data were gathered using rapid rural appraisal techniques. We chose a purposive sample of field sites to include all natural regions, different social organizations, and particular tenorial niches and special managerial approaches. Summary descriptions of the field sites can be found in Table 1. Household interviews were carried out in all sites except Bende. Within villages we chose households to include the poor, those who lived away from the road, and ecological variation, if any. Depending on availability, a man was interviewed in each household by a male Zimbabwean researcher and a woman was interviewed by a female expatriate researcher working through an interpreter.

Characteristics of field sites

Community	Natural Area	Population Density	Fuelwood Availability	Communal/ Resettlement
Bende	2	1	3	c
Chatamba	2-3	3	1	c
Kanyati	3-4	2	3	c
Masoka	4	2	2	c
Mid-Zambezi Valley	4	3	1	r
Tsholotsho	4	2	3	c
Mushandike Resettlement	4	3	2	r

Population Density: 1 Light/ 2 Medium/ 3 Heavy

Fuelwood availability: 1 Scarce/ 2 Available/ 3 Abundant

Communal Area (c), Resettlement Area (r)

APPENDIX B. A BRIEF HISTORY OF THE BENDE CONTROVERSY

In the 1920s Bende, which had been a part of Nyamaropa "Native Reserve" was excised into crown land²¹. The residents were allowed to stay in return for paying an annual rent. In 1952 a Select Committee of Parliament recommended that a piece of crown land named "Lucan", north of Nyangui become a "native reserve" and that Nyangui become State forest land. It would appear that at the time, apart from local residents, Nyangui had also been settled by people moved from "European"-owned lands at Nyanga. Some of the former inhabitants were moved to Saunyama Communal Lands after the Southern Rhodesia Proclamation No.3 of 1959. It seems that at no time was Bende/Nyangui vacated completely and the Nyangui forest area continued to be used by surrounding residents for grazing.

In 1969 3,400 ha of the eastern part of Nyangui was excised for the purpose of resettling the Tangwena people who had been evicted from the Kairezi ranch. Very few of the Tangwena people took up the offer, only 7 families by some accounts. Instead other people from the district moved in.

The first legal boundary of Nyangui forest was published in 1969 but was amended in 1972. In 1969 a Land Surveyor (K.D.Linington) was engaged to mark the eastern boundary. He found it impractical to establish the published beacons and therefore put in new beacons. Local people who have memories of where the old boundary was and where their cattle used to graze point out that the surveyor did not consult them. In any event, Linington's beacons were not used in the Land Tenure (Repeal) Act No.5 of 1979.

The first afforestation of Nyangui Forest area was carried out in 1970 when 20ha of commercial plantation was established. 322ha of plantation had been established by 1976 out of a total of 16 000ha. The Forestry Commission continued to permit grazing on parts of the forest land.

²¹ This section relies heavily on the history presented in Forestry Commission (n.d.).

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