

# KAVANGO FARMING SYSTEMS RESEARCH AND EXTENSION PROJECT: SUMMARY OF AGROFORESTRY STUDY

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“Life was very difficult in Ncaute, there was not enough water, and in some years there are not enough crops and people need to get food from the forest; without this they would not be able to survive”

Junior Headman, Ncaute

## ABSTRACT

The aim of this study was to improve the Kavango Farming Systems Research and Extension (KFSR/E) unit's understanding of the role that trees and forestry play in the rural livelihoods of villagers in the Kavango Region. Through an improved understanding, it is anticipated that the main issues related to trees' and forests' use and management can be identified and prioritised. This will then form the basis of future extension messages and will also be used to highlight some research issues and opportunities as well as also some of the policy issues.

## METHODOLOGY

The study was undertaken in an *omuramba* community, Ncaute, which is in a remote location and in an inland community, Mile 30, which has the main Grootfontein to Rundu road passing through it. No survey was undertaken in a riverine community. This was a serious omission, needing redress.

Starting this survey proved difficult, as there was much suspicion. Farmers frequently complained that government personnel or people undertaking surveys came in making promises, then never came back. The community perceived no benefit in return for the countless interviews and other discussions. Notwithstanding the problems of surveys, there was also a great deal of suspicion about discussing matters relating to trees and forestry. There was constant and frequent reference to the Directorate of Forestry in terms of law enforcement.

Household profiles were undertaken in the two survey villages. In Ncaute, the average household was 9.6 persons, with an average of 4.3 children per household. The household size ranged from 33 persons to 3 persons. This contrasted to Mile 30, which had an average household size of 15.3 persons and 8.8 persons per household. The household size ranged from 49 persons to 1 person. In addition to data collected on forest

use, information was collected on the duration that the respondent had been living in the community, livestock numbers, crops grown and access to non-farm income sources.

A wealth ranking was undertaken in both villages; livestock ownership, particularly cattle, being the principal criteria that determines wealth. There were variations between the two villages; however, four general wealth categories were identified:

Group 1 (10-20% of the population)

They are well off, own livestock and are plough owners. In Mile 30 farmers from this group enhance their income through carving.

Group 2 (30-40% of the population)

They generally do not own livestock, or may have only a few animals. They borrow ploughs and undertake casual labouring jobs. In Mile 30 some carving is undertaken. They are very dependent on the forest.

Group 3 (30-40% of the population)

They do not have any land and/or livestock, but are likely to have a small garden (*sipata*). They rely heavily on casual labouring jobs and sell fruit and *Kashipembe* (*kashipembe* is a spirit, resulting from a fermenting and distillation process). They are very (95%) dependent on the forest.

Group 4

In Ncaute there are a fourth group of pensioners, who are completely reliant on relatives and handouts from the community. Female-headed households are almost always in the lower groups, and are consequently heavily dependent on



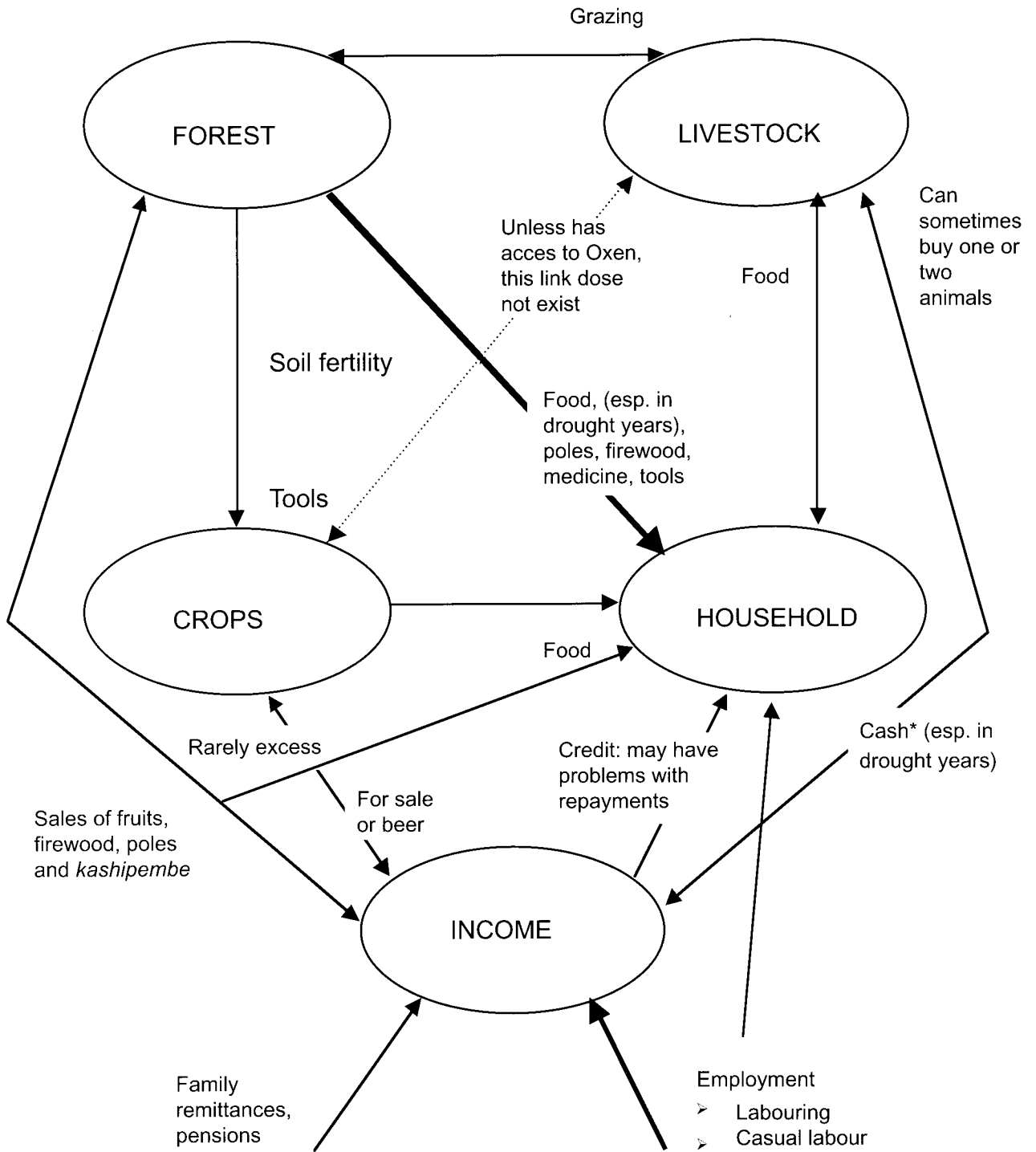


Figure 2. Group 2 farmers: possibly some income (from casual labour - 'stikwerk' - paid in cash or kind, employment and the selling of fruits and *kashipembe*). They may have livestock and/or land (but not much) and can rent or borrow a plough (plant crops in sub-optimal conditions).  
 \*Sometimes in kind

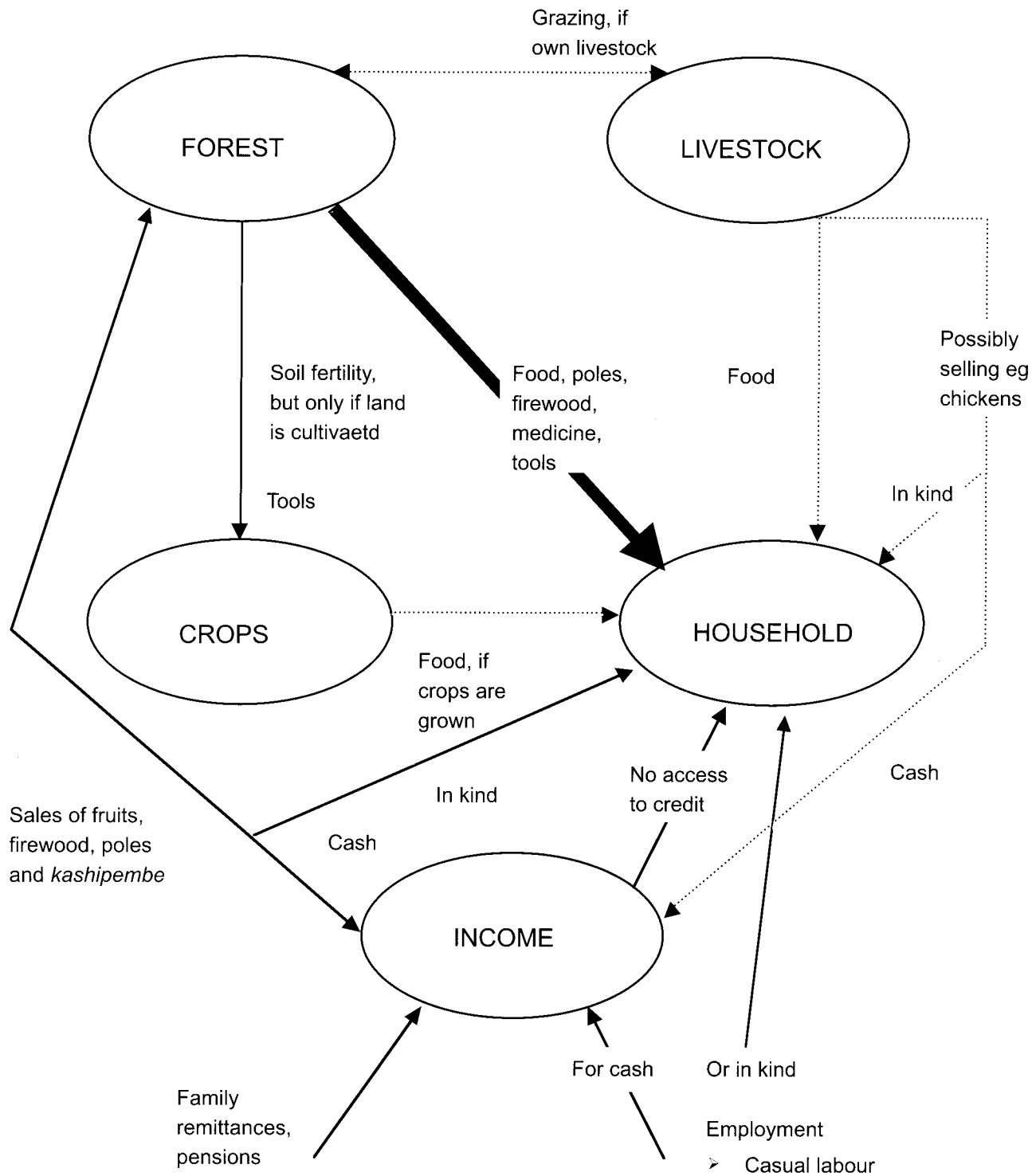


Figure 3. Group 3 farmers: they have no land, or just a small garden (*Sipata*) and few or no livestock (one or two goats or chickens). They sell fruit and *kashipembe* and do casual labour ('stikwerk'), carving and herding.

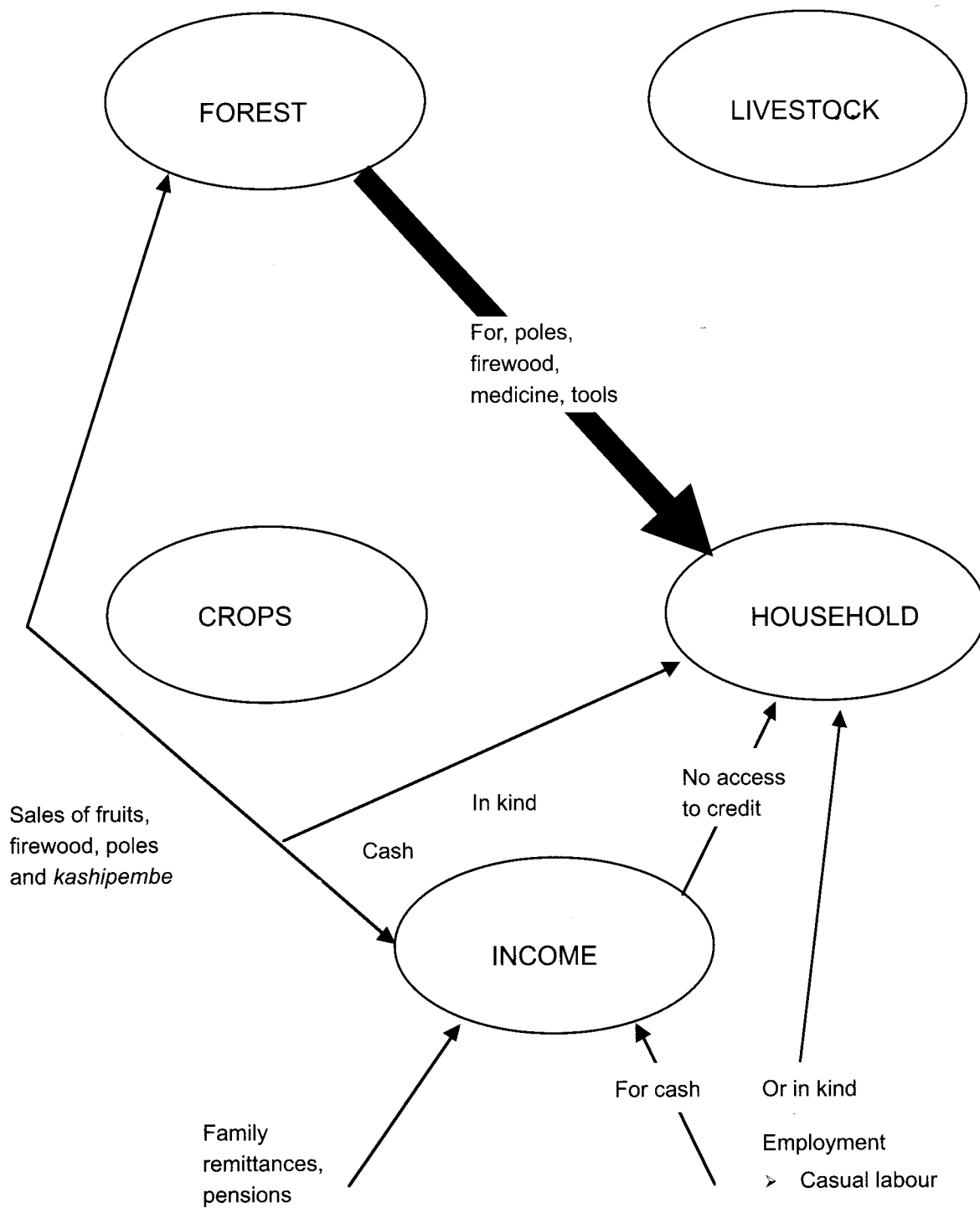


Figure 4. Group 4 farmers: the San and those in a similar situation; those with no land and no livestock.

## RESULTS

In both the communities that the project surveyed, the people emphasised their dependence on the forest, particularly in a poor rainfall year. Several respondents expressed concern about the disappearance of traditional ways, particularly in terms of traditional medicines, farming and values.

### Species used

The total number of plant species mentioned was 54 and 49 in the *Omuramba* village and the inland village respectively. Of these species 31 and 48 were considered to be food species, 21 and 16 had medicinal properties and 17 and 7 had fodder uses, in the *Omuramba* and the inland community respectively.

### Forest Product Uses

#### Fruit

In both villages, men, women and children collected fruit; most of it is on an ad hoc basis, for home consumption. In the *Omuramba* village there is no external market for the fruit and there is only a very small internal market. This contrasted with the inland community, where fruit selling is a roadside activity for all wealth groups. Some fruit is transported and sold in Rundu, Grootfontein and even as far as Okahandja. Fruit falls into two categories, those that can be stored or kept and those that cannot. Those fruits available all year round are very important in the June - October period, when few other wild fruits are available. The summer fruits (August - December) are also crucial because food security is precarious at this time of the year.

#### Kashipembe Production

The manufacture of *kashipembe* is an important use of non-timber forest products. Different fruits and nuts are used to make *kashipembe*. The best is considered to be *nongongo* (*R. rauteanii*), where 1 bag (maize sack size) will make 5-10 litres. An average price is N\$ 6.00 per 1 litre bottle, or N\$ 1.50 per glass (*nippi*). It is possible to mix different fruits to bulk out the *kashipembe* or to alter the taste. An estimate of the costs and revenue gained from *kashipembe* production has been undertaken. It is estimated that a profit of N\$ 19.50 to N\$ 26.00 and N\$ 29.50 to N\$ 36.00 is seen if *nongongo* is purchased or collected by family labour respectively. This compares favourably with the sale of agricultural crops and livestock.

#### Carving

Carving is the principal activity of many households in Mile 30. However, it is said that only the Nyemba people carve, Kwengali's do not. In Mile 30 carvers work in informal groups, collecting wood together, sitting with each other whilst carving and co-operating in the marketing of the carvings. These are, however, serious carvers, who work in groups, who contrast markedly with the "part-time" carvers. Problems with alcohol appear to be implicated in the latter group. It was difficult to

estimate the quantity of timber collected, as frequently items were carved in the forest, before being carried to the roadside, and there was also a great deal of reluctance to impart information.

To cut down a tree, a permit from the Directorate of Forestry is required and this was described as "difficult" to obtain. This was a very sensitive subject, but it appears that those with little cash are prepared to take a risk and do not obtain a permit. The traditional authorities have a role in felling trees. Whilst many did not apply for a cutting permit, a large number of carvers did apply for marketing permits. Over a 6-month period a group of farmers had applied for marketing permits covering 2 500 carved items, this was an average of 143.6 carvings per person. Periodically, the Directorate of Forestry staff check these selling points.

An estimated partial budget has been drawn up for carving, using different scenarios; by working alone, producing 2 items in a 2 month period, a profit of N\$ 60 was estimated. Conversely, a group of 5 carvers from Mbangura Co-operative made 37 pieces and made an estimated profit of N\$ 4 200 over the same 2 month period.

#### Other uses

The forest is also used to generate other products:

- Firewood: which in the Rundu area has seen an increase in the number of selling points along the main highway;
- Construction poles: For the provision of construction poles, principally one species is used (*mugoro* – *T. sericea*), as it is termite resistant. Thus, straight specimens of this specie are becoming increasingly scarce;
- Medicinal purposes: There are trees used for medicinal purposes; with the increasing cost of clinic charges, many people try the cheaper traditional remedies before turning to western medicine;
- Grasses: Grasses are used for both fodder and thatch. A private company in Namibia has established several buying points along the main highway and off it; and
- Wooden implements: The hardwoods are used in the manufacture of farm implements and food preparation implements.

#### Management

Some management practices are used by the community, especially coppicing and pollarding. There are also conservation practices; for example, there is a traditional rule that forbids anyone to cut down fruit trees. Trees of economic consequence or those that have a subsistence value are left in the fields. It is not clear who is the owner, some respondents said that the person who cleared the field is the owner, others said that they were still a common property resource. What is clear is that the forest is a common resource with open access, having no restrictions on use.

There are other management regulations which do not appear to be universal. In the Omuramba community, no planting of trees is allowed on either common property, on borrowed or fallowed land. This restriction is to prevent problems with land ownership in the future, as planting of trees implies ownership and may undermine the rights of others wishing to use the common property resources. It was evident that not everyone interviewed knew the regulations. It is difficult to know to what extent that are obeyed and respected.

Fire is a serious issue and it does significant damage. There are fines (5 head of cattle) for any person found guilty of starting a fire. It is difficult to prove, so rarely enforced. Everyone acknowledges the damage done by fire, but no one ever admitted to using it as a tool. There are guidelines for using fire to clear fields, which every one knows about and claims to use. But "someone else always starts the fire".

### **Dependence**

For the well-resourced household, cattle ownership acts as a buffer in difficult times. The less well-resourced do not have this margin, and this throws these groups into a very heavy dependence on the forest, for both income and subsistence. Rainfall plays a key role; poor rain may result in a poor harvest, and this will increase peoples' dependence on the forest for food. This will also limit the forest's productivity, so the resource is limited, when required most.

The previous seasons harvest is usually consumed in 4 to 9 months after the harvest, leaving a 4 to 5 month period with no food. In this case, farmers have two options: to either seek off-farm employment (which is difficult) or to use the forest's resources. This results in greater competition for limited forestry resources in December to April period. Those forest resources near to the homestead or community centre are rapidly used, forcing people to go further afield. Those without livestock are limited in the quantity that can be collected, as they will have to collect and carry.

Many poorly resourced households do not have the time or the resources and the *de jure* female-headed households do not have the time or the resources to collect and transport produce from the forest. Thus the poorly resourced are very vulnerable to external factors, particularly rainfall; successive droughts are particularly significant, as there is greatly increased competition for an increasingly scarce resource. To reduce this there may be a need to develop a community-based system to conserve and protect the resource base.

## **RESOURCE ASSESSMENT**

In both communities, the resource assessment was difficult to assess. Overall, it was considered to be sufficient, but several respondents expressed concern over the scarcity of certain prized species. Fire is affecting the resource significantly. Forest fires are frequently destroying grazing, browse, coppice growth and fruit trees. Fires are usually attributed to carelessness, but several respondents said they may be caused by people clearing land for themselves and prospective landlords, in which case, the fastest and most efficient land clearance method to use is fire. The role of government was raised; the cutting of fire lines was considered a good idea. It was suggested that a committee develop a joint management plan, however, the communities were clear that responsibility for fire control lay with the government.

There is potential for community management, but the authority of the traditional leader has been eroded. It appears that the church has an enhanced role. This erosion of the traditional authority's powers has not been replaced with equal respect for the state authorities, and flowing from this is a general feeling of lawlessness. Unfortunately the communities' contact with the government has not always been only positive. To rectify this will be difficult, as there is some suspicion of the law-enforcing Directorates and the perception that the government is an unlimited financial resource. This will be a barrier to programmes designed to empower communities towards development.

## **CONCLUSIONS**

There is some, but not much, active management of the forest, as this is a communal resource, with open access. At the moment it is perceived as inexhaustible. It is accepted that the resource has declined, through successive drought and fire. These are the two principal causes. It appears that one ethnic group and not others undertake carving.

There are limited income generating and marketing opportunities in the remote inland village, resulting in a very poor village economy. There is a need to determine methods to develop this. Good infrastructure makes a significant contribution, but together with it, money is required to cover expenses, such as clinic and school expenses. This is a major cultural change, which will affect the way natural resources will be managed in the future.