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# People's Perception on Community-based Forest Management: The Case Study of Njombe District, Tanzania

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**Abstract**

This study aimed at examining the perceptions of the local communities on Community Based Forest Management (CBFM) in two villages in Njombe District, Tanzania. This was important because CBFM is a bottom-up strategy that involves local communities as owners or users of forest resources. The study used face-to-face interviews, guided by a questionnaire, observations and focus group discussion and documentary review. The findings showed that 70 percent of the respondents complained that the District Council was not supplying enough funds to carry out the CBFM activities, including extension services, while 90 percent complained of the shortage of extension services in forest management activities. Hence, it recommends the need for empowering local communities to enable them support their forest activities.

## Introduction

Tanzania, like many other sub-Saharan African countries, has been actively implementing community-based forest management (CBFM) as a bottom-up approach to forest management. This is an intervention that aims at ensuring fundamental outcomes of sustainable forest management and sustainable rural livelihoods. It has been in response to the ongoing global and local changes on forest policies that call for community participation in forest management (URT, 1998). Under Community Based Forest Management local communities assume owner/user rights and management decisions over forest resources (DANIDA, 2002). Thus Wily (2002) points out that local communities are both owners and duty bearers: i.e., they are owners, users and managers of their own forests. They have a responsibility of sustainably managing their forest and reap benefits out of it.

However, Nayak (2002), raises some doubts on the sustainability of CBFM by asking whether village communities would plan for, and have enough time for their village forest to build a succession of species that yields more stand of

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trees, shrubs and grasses, of endemic species, and its complement of fauna and flora, which would not only meet their diverse needs, but also conserve ecosystems and life support systems for future generations. This was particularly the case because most rural communities where forests are usually located depend on forest resources for their survival. Thus, this study examines local community's perceptions of community based forest management in relation to forest resources and people's livelihoods.

## Conceptual Framework

Fig. 1 shows that top-down forest management tend to limit local communities' involvement in decision-making. It leads to limited access to power structure and resources. This has led to unsustainable forest management as the local people continue to access forest resources illegally knowing that it belongs to the government to which they are not a part. Thus, the lack of local people's involvement in the management of forest resources is regarded as the key missing factor that can act as an important incentive to forest dwellers to develop a sense of ownership, empowerment, and feel the benefits of forest resources.

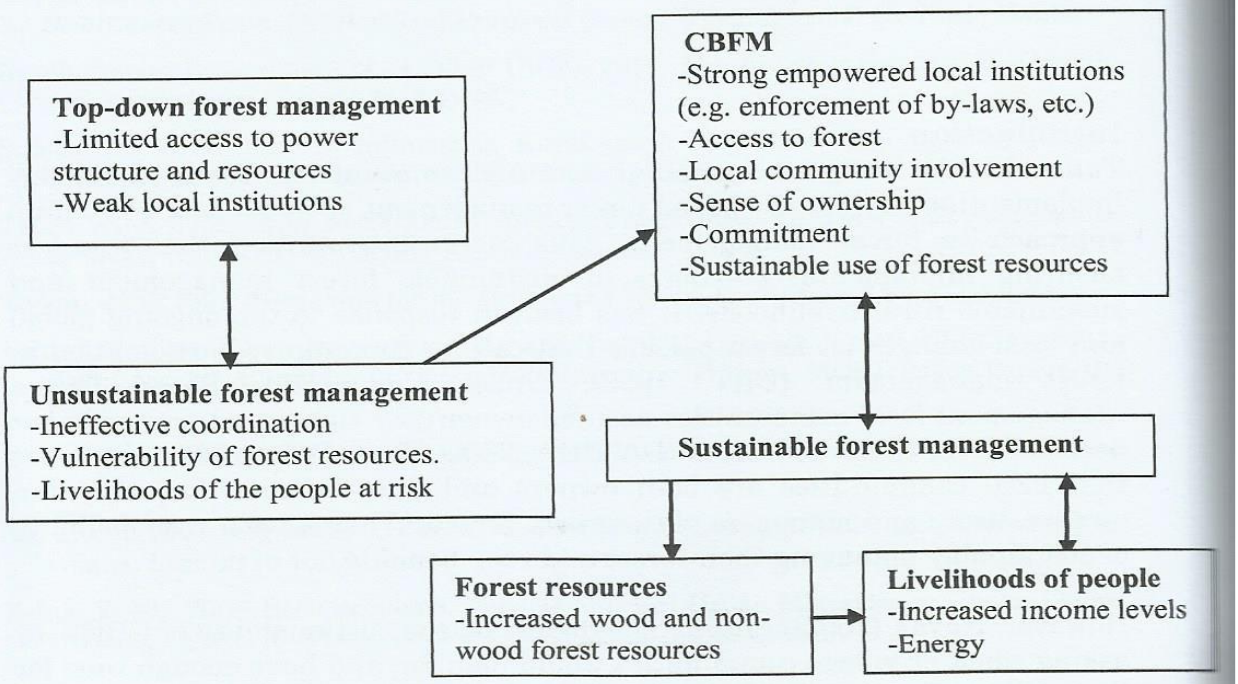



**Figure 1: Sustainable Forest Management**
**Source**: Modified from Fabricius *et al.* (2004).

However, the effectiveness of the community-based forest management is dependent upon interrelated set of widespread processes within a society and the functioning of the state. Community forest management can develop by-laws that safeguard the interests of local people and forest resources. Empowered local institutions can enforce by-laws governing access to forest resources. It can help people living near forest resources to develop sense of ownership and commitment in forest management. This process can result into sustainable management of forests, increased wood and non-wood forest resources which can enhance local people's livelihoods such as income level; and energy consumption that would act as a catalyst for the local people to manage forests sustainably.

**The Research Problem**

Community based forest management has been seen as a panacea for sustainable forest resource management, particularly because the top-down approach has not been very successful (Kajembe, 2003). Community based forest management has been regarded as the solution for the well recognized setbacks of the centralized forest management system because of its limited reach to the people; its inability to sustain the required local action; its limited adaptation to local environment; and its creation of dependence on government institutions. Thus, empowering people's participation seems to ensure project sustainability and social acceptability as beneficiaries participate in the project. However, poverty is prevalent in most rural areas in Tanzania. Thus one of the factors that force people to exploit unsustainable forest resources is poverty. Most rural communities meet their day-to-day needs by using forest resources such as fuelwood, charcoal and poles. This may have implications in CBFM because as owners of a forest, villagers need to generate funds for supporting forest activities in the village. Hence, this study examines the perceptions of the local people on CBFM in relation to forest resources and people's livelihoods (Bamberger, 1991).

**The Main Objective of the Study**

The main objective of the study is to examine the perceptions of local communities on the community based forest management in the study area in relation to forest resources and people's livelihoods.

The specific objectives are to:

1. Examine the perceptions of local communities on CBFM in relation to forest resources conservation.
2. Examine the perceptions of local communities on CBFM in relation to people's livelihoods.
3. Evaluate the measures of policy makers on the improvement of CBFM.

## Literature Review

Community-based forest management is a strategy established to achieve sustainable forest management by promoting the management of forest and woodland resources by the communities living closest to the resources (NFP, 1998). It is characterized by the forest-local communities assuming owner/user rights and management decisions of power (devolution) over the forest resources. It is conceptually part of an overall development strategy that aims at improving rural livelihoods, and thereby helps to protect the environment (DANIDA, 2002). It also means that the communities involved with a forest have the legal right, institutional base, and the economic incentives to take substantial responsibility for the sustained use of that forest (Heermans et al., 1999). Thus, in community-based forest management the local communities are both owners and duty bearers, that is, owners, users and managers (Wily, 2002). This kind of approach creates a sense of ownership and responsibility for the resource among community members (IIED, 1994).

Based on community-based management, it is suggested that if development is to benefit the local people, they must participate in planning and implementing their development plans. That is to say, the central orientation or strategy of community participation is to ensure the participation of the beneficiaries in the process of planning, developing, implementing and evaluating development projects (Makupa, 2007). Meghji (2003) stated that local communities have a significant role in improving forest and woodland management, and their participation can contribute significantly to the sustainability of forest resources. WRM (2004) emphasized that not only active involvement of local and indigenous communities in managing forest areas must be ensured, but also the benefits generated by these areas must be shared.

The emphasis was that the people who draw their livelihood directly from forest products should play their role in the partnership to conserve the forest. Essentially these people have to be made fully aware of any plans and participate fully in the preparation and execution of policies and activities that involved their forests (WB, 1998). The main idea behind participation of local people has been that as local communities are located close to the forest resources, they are thus equipped with both the incentives, and knowledge for their sustainable management (Brosius et al., 1998; Vihemäki, 2005).

Timothy (1997) argued that to ignore local community's participation is to ignore their rich resource of knowledge. Ignoring local communities' rights to

forests and other natural resources perpetuates conflict, hastens degradation of environmental resources, undermines economic growth and fail to achieve conservation goal (Kajembe et al.). In so doing, any development programme can eventually acquire legitimacy from the people.

However, people's participation must occur throughout a programme planning process to be effective. As Michael (2006) argues, early community involvement in a development programme normally smoothens later programme design and implementation. Therefore, full participation of beneficiaries is seen as a critical ingredient for the success of any development programme (Bamberger, 1991: 282). Empowering a community to manage and regulate the use of a resource will reduce the pressure on the resource because by the mere fact it is owned by a certain community it will not be an open access, rather more sustainable practices are likely to be implemented (Ascher, 1995).

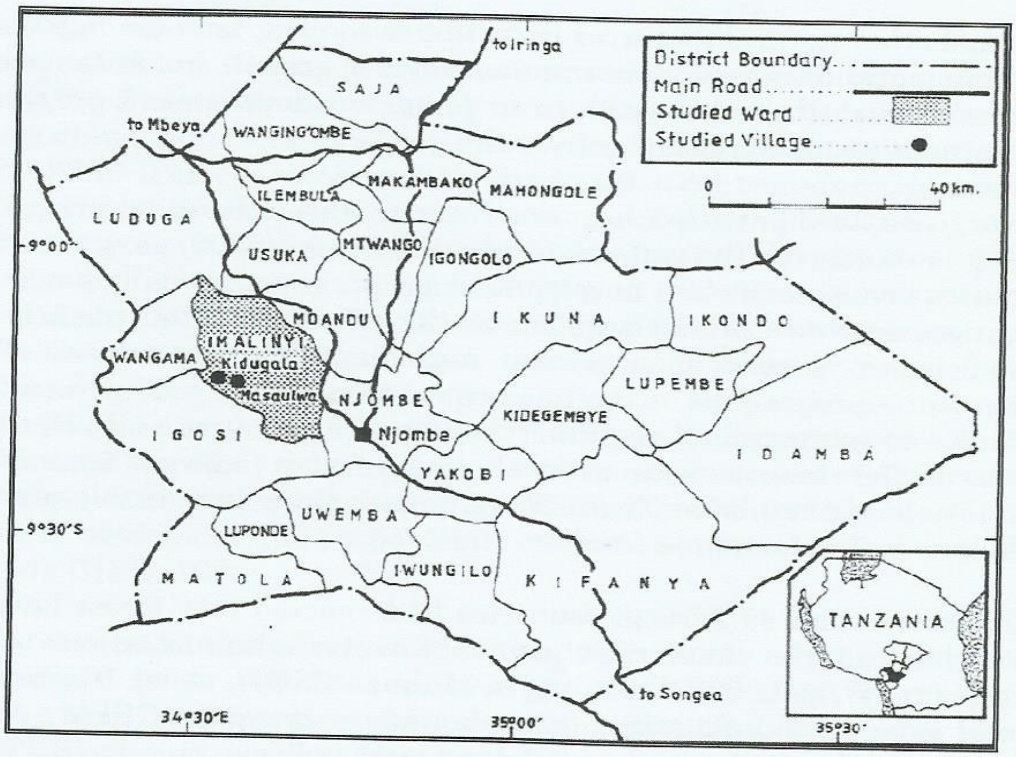
By 1990 more than 35 African countries had enacted new forest laws and policies changing the character of central forestry administrations to local governments (Wily, 2002). According to Makupa (2007), about 16 percent of the total area in Sub-Sahara African countries is under CBFM. African countries' that have changed forest laws and policies to suit CBFM are Gambia, Ethiopia, South Africa, Zambia, Uganda and Kenya, among others (Wily, 2002).

## The Methodology

### *The Study Area*

Njombe District in Iringa Region was selected because it is among the areas where Community-based forest management is being undertaken (URT, 2007). Also, it is a rural district where the majority of local people's livelihoods depend on forest resources.

Administratively, the Njombe District is divided into seven (7) divisions, 25 wards and 170 villages. The total land area is 10,241km$^2$ (URT, 2002). Kidugala and Masaulwa villages are found in Imalinyi ward (See Map 1.). These two villages are located in the west of Njombe town. Kidugala village is administratively made up of eight sub-villages, namely Mkeha, Tengelemembe, Kilagano, Ugungule, Sengele, Lungemba and Mwalivale. In the village there is the Chauyiva forest reserve that covers 82.76ha of the total area of the village. Masaulwa village on, the other part, is administratively composed of five sub-villages, namely Ikaula, Uheni, Kilongo, Yeriko and Bomani. There is Kilongo forest reserve in the village that covers 58.21ha of the total area of the village.




## *Economic Activities*

Agriculture has always been the most important economic activity in Njombe District, encompassing the production of crops and the keeping of livestock. More than 90 per cent of the households in the district are farmers. Maize is the most important food crop in the area, while Irish-potatoes serve as important a cash crop. Other crops cultivated include: beans, cowpeas, sweet-potatoes, sorghum, finger millet, groundnuts, sunflowers, wheat and bananas. The main cash crops grown in the district are wheat, tea, tobacco, pyrethrum, sunflower, coffee and citrus fruits. Forestry activity is also of great importance in the district where wattle and pines are planted heavily. The Tanganyika Wattle Company (TANWATT), for example, produces tannin from wattle barks, mainly for export. Another land uses in the area includes *vinyungu* cultivation (growing of vegetables along the river banks) (Hasen, 1992). By the 1980s, for example, the district was producing almost one-third of all Tanzanian tea, two-thirds of the country's pyrethrum, and a considerable amount of wheat (Howe & Bryceson, 1988: 29-35).

Things changed, however, with the coming of the era of economic liberalization between the 1980s and early 1990s. With the onset of the economic crisis of the early 1980s, production began to decline as timely delivery of farm inputs by government parastatals was disrupted and land degradation began to take its toll (Wardell, 1991). This had some implications on forests too.

### *Vegetation*

Although large areas of the district are now under cultivation, a vast majority of the land is still covered by natural vegetation. Generally the predominant natural vegetation is Miombo woodlands (Hasen, 1992). Also there are 13,400ha of land planted with black wattle (*Acacia mearnsii*) and pines (*Pinus patula*) by the Tanganyika Wattle Company, a subsidiary of the Commonwealth Development Corporation (CDC). There are 3,783ha of forests under participatory forest management, 348.2ha under community-based forest management, and 297.9ha under joint forest management. Some village land forests are not yet demarcated (Njombe District Report, 2009).

### Sampling Procedure and Sample Size

Field research was carried out in Kidugala and Masaulwa villages in Imalinyi ward. The two villages were selected purposively because that is where participatory forest management started to operate early by 2003/2004 in the district. Also they were selected based on their ease access.

The study included 101 heads of households from both villages who were interviewed. They were obtained with respect to different categories, namely: households, sex, and age. In addition, we interviewed 6 members of village natural resources committee from each village, 1 village chairpersons from each village, 1 ward executive officer, 1 ward forest extension officer, and 1 district forest officer.

As stated above, the two villages were selected purposively since this is where participatory forest management started to operate early by 2003/2004 in the district. Thereafter, we obtained lists of heads of household from both village governments. Using a table of random numbers, a sample of 68 Kidugala and 33 Masaulwa households were selected randomly. The two villages had a total of 1,282 households (URT, Census 2002), and therefore a sample of 8% of all the households was involved in this study. In the sampled households, only persons aged 18 years or above were interviewed. This limit to this percentage was due to time constraints and manpower shortage. Also, we purposively sampled 6 members of village natural resource committees from each village, 1 village chairpersons from each village, 1 ward executive officer, 1 ward forest extension officer, and 1 district forest officer on the basis of their positions and responsibilities in the conservation activities.

### Types and Source of Data

Both primary and secondary data was collected for the study. The primary data was collected through interviews, questionnaires, focused group

discussions, and observation. Secondary data was collected from a diverse of documents, books and electronically stored information like the internet. Both qualitative and quantitative approaches were employed in data collection. The study employed a variety of methods and techniques for data collection.

Interviews and questionnaires were used to obtain statistical data about environmental projects and management of forest resource. Experience from the past practices concerning nature conservation was obtained from internet, books, journals, periodicals, newspapers and magazines; and from both published and unpublished dissertations and theses. Focused group discussions were used to identify the community's knowledge and implementation of the community-based forest management programme in their localities. This method facilitated free discussion that stimulated richer responses (Debus, 1986).

## Discussion of Research Findings

### *Characteristics of the Respondents*

*Age Structure*

The age of the respondents ranged between 21 and 70 years. Most were aged 41 years and above (Fig. 2). This was an important group as the respondents were able to understand the socio-economic and ecological dynamics taking place in the study area. The study, for instance, revealed that aged people had broader knowledge on some mushroom species—e.g. *Termitomyces singidensis* (Witali), *Termitomyces letustui* (Wikulwe) and *Amanita zambiana* (Wilelemi)—which were rare in the study area.

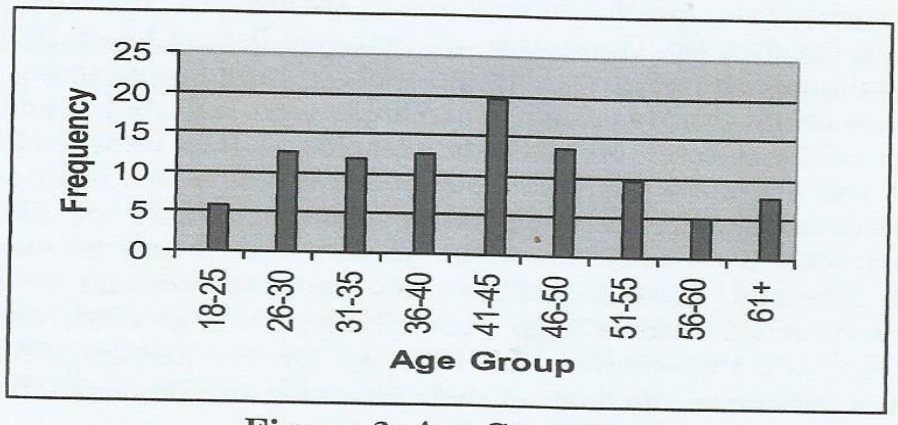



**Figure 2: *Age Structure***

*Household Size*

The household size in the study ranged from a minimum of 2 to a maximum of 13. The average household size was 4. Household size is

important in determining the rate of exploitation of forest resources in a particular area. In the study villages, it was found that consumption of firewood was greater in larger families than in smaller ones (Table 1).

**Table 1: Household Size**

| Family Members | Frequency |
|---|---|
| 1-5 | 42 |
| 6-10 | 37 |
| 11+ | 22 |
| **Total** | **101** |

**Source**: Field Survey Data 2008

*Marital Status*

78 percent of the respondents were married, 8 percent were single, and the remaining were widows/widowers and the divorced (Table 2). It was noted that married women were more informed on wood resources than married men, but lacked participation in decision-making. For instance, they could not respond to some questions on land ownership.

**Table 2: Marital Status**

| Villages | Marital Status | | | | | Total |
|---|---|---|---|---|---|---|
| | *Married* | *Single* | *Widow* | *Widower* | *Divorced* | |
| Masaulwa | 29 | 3 | 1 | - | - | 33 |
| Kidugala | 50 | 6 | 5 | 3 | 4 | 68 |
| Total Frequency | 79 | 9 | 6 | 3 | 4 | 101 |
| **Percent** | **78.2** | **8.9** | **5.9** | **3.0** | **4.0** | **100** |

**Source**: Field Survey Data 2008

*Education Level of Respondents*

The findings show that 75 percent of the respondents had completed primary education, 9 percent had no formal education, 9 percent had adult education, 6 percent had secondary education and 1percent had university education (Table 3). Education is an important component of human resource base because it influences one's knowledge on the use of forest resources. It was observed in the study area that less educated people were less informed about proper forest resource management.

**Table 3: Education Level**

| Villages | Level of education | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | *Illiterate* | *Adult Educ.* | *Primary Educ.* | *Sec. Educ. O-level* | *Sec. Educ. A-level* | *Univ. Level* | |
| Masaulwa | 3 | 1 | 27 | 2 | - | - | 33 |
| Kidugala | 6 | 8 | 49 | 3 | 1 | 1 | 68 |
| Total Frequency | 9 | 9 | 76 | 5 | 1 | 1 | 101 |
| **Percent** | **8.9** | **8.9** | **75.2** | **5.0** | **1.0** | **1.0** | **100** |

**Source**: Field Survey Data 2008

## Perception of Local Communities of Forest Resource Use and Degradation

### *Local People's Awareness of Forest Resources*

The villagers seemed to be knowledgeable about the uses of forest resources. It was found out that wood resources were the most well-known forest resource. It included firewood (41%), charcoal (14%), poles (9%) and timber (8%). This was followed by non-wood forest resources like wild fruits (5%), mushrooms (4%), traditional medicines (3%), pasture land (4%) and roofing grass (3%). Few people were aware of the forest services that available as shown by Table 4. None of the respondents thought of using forest resources for recreation, tourist attraction and aesthetic purposes.

**Table 4: Local people's Awareness of the Forest Resource**

| | Frequency | Percent |
|---|---|---|
| Firewood | 41 | 40.6 |
| Poles | 9 | 8.9 |
| Charcoal | 14 | 13.9 |
| Timber | 8 | 7.9 |
| Wild fruits | 5 | 5.0 |
| Traditional medicines | 3 | 3.0 |
| Mushrooms | 4 | 4.0 |
| Ritual functions | 3 | 3.0 |
| Roofing grass | 3 | 3.0 |
| Pasture land | 4 | 4.0 |
| Source of water | 3 | 3.0 |
| Soil fertility | 2 | 2.0 |
| Climate modification | 2 | 2.0 |
| **Total** | **101** | **100.0** |

### *People's Perception on Forest Resource Degradation*

With respect to the availability of forest resources in public forest land within the last 10 years, the results showed that 70 percent of the respondents admitted that the forest resources were decreasing. They noted that some wild animals and wild birds that were seen in the past are currently not seen, and some water sources have dried up. And 9 percent of the respondents said that the forest resources were increasing. About 21 percent of the respondents pointed out that they did not know about the issue (Fig. 3).

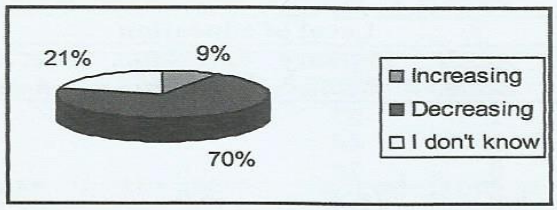



**Figure 3:** ***Trend of Forest Resources Availability in the Study Villages***

### *Factors that Led to Forest Degradation*

When the respondents were restricted to mention only one of the most common human activities that caused deforestation, the following were the results: 37 percent mentioned agricultural activities (see Plate 1); 29 percent mentioned cutting down of trees for fire wood; 12 percent mentioned animal grazing; 10 percent mentioned brick making; 6 percent said uncontrolled fire; 4 percent mentioned charcoal burning (see Plate 2); 1 percent mentioned honey harvesting by fire; 1 percent mentioned lumbering; and 1percent said hunting by fire (Table 5) Thus, agricultural activities were seen as the major threats to forest availability in two villages.

**Table 5: Human Activities that Cause Deforestation**

| | Frequency | Percent |
|---|---|---|
| Agriculture | 37 | 36.6 |
| Cutting trees for firewood | 29 | 28.7 |
| Bricks making | 10 | 9.9 |
| Uncontrolled fire | 6 | 5.9 |
| Hunting by fire | 1 | 1.0 |
| Honey harvest by fire | 1 | 1.0 |
| Animal grazing | 12 | 11.9 |
| Lumbering | 1 | 1.0 |
| Charcoal burning | 4 | 4.0 |
| **Total** | **101** | **100.0** |

**Source**: Field Survey Data 2008

**Plate 1:** A forest has been cut down to open a new farmland at Masaulwa village. Agricultural activity is a major cause of deforestation in the village.

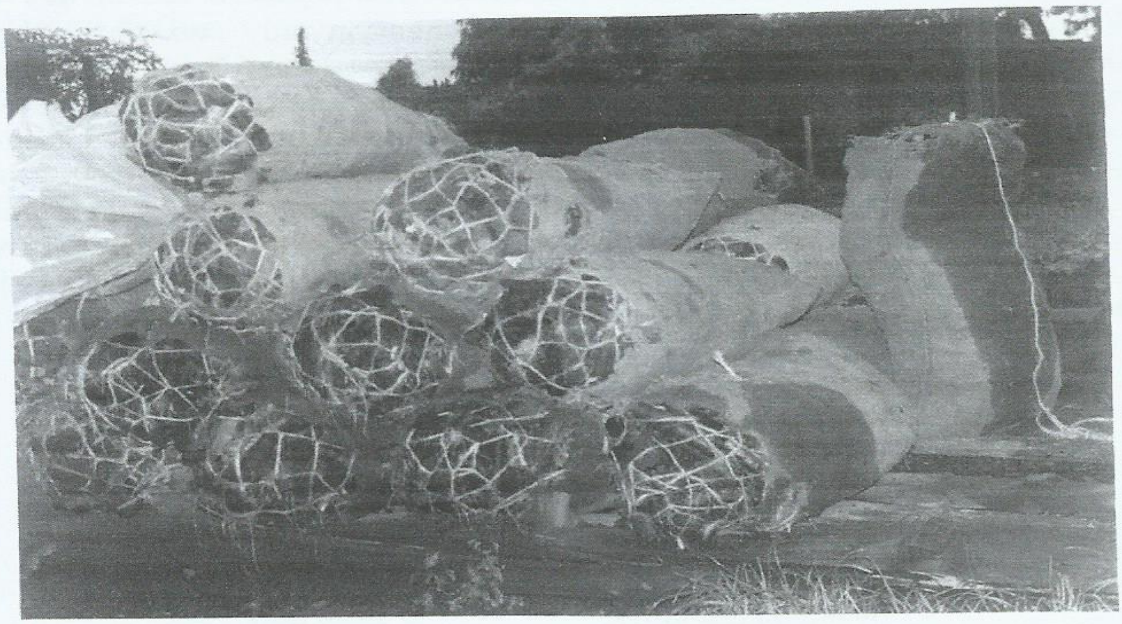


**Plate 2:** Bags of charcoal in Kidugala village ready to be transported to Njombe town.

## Role of Community Based Forest Management

### *People's Involvement in the Planning, Decision Making and Implementation of CBFM*

Responses from the community members showed that 62% of the respondents reported that the district council introduced the CBFM in the village assembly, 18 percent said that the village environmental committee members introduced it to them, 11% said that it was the village government; and 9% said all villagers participated in the general assembly at the initial stage of introducing the CBFM in the village. This implies that not all the community members participated in the planning stage. This could be attributed to various reasons, such as the reluctance of some villagers to attend village meetings, as remarked one village committee members:

> *You know, poor attendance of some villagers in general village meetings makes the village environmental committee members sit down and decide on their behalf, and then sub-village chairpersons are ordered to inform their people and give them instructions for implementations. However, monitoring and evaluation is done by the village environmental committee members.*

FGDs revealed that the village environmental committee members and village leaders in the two villages were the people involved in planning and decision-making of the CBFM. However, the involvement of the local community in the management of forest was important to ensure sustainable forest ecosystem. Poor participation had excluded people who were also part of the ecosystem to manage forest resources in which their actions towards forest resources had an important impact on the sustainability of the resources and their livelihood.

Research findings revealed that the village environmental committee oversaw most of the forest management issues of the village forest reserve. Table 6 shows that 89 percent of the respondents did not participate in patrol activity, 90 percent said they did not participate in the demarcation of the village forest reserve, 90 percent said they were participating in the making firebreaks, and 91 percent were being involved in tree planting activities. During FGDs, the chairman of the village forest management committee in Kidugala village complained that most of the activities were being done by the committee. This showed that local communities were not involved in the management of the forest.

**Table 6: People's Involvement in Forest Management Activities**

| | % Yes | % No | % I don't know | Total |
|---|---|---|---|---|
| Patrolling the village forest reserve | 1 | 89.1 | 9.9 | 100 |
| Demarcation/Measurement of the Village forest reserve | 1 | 90.1 | 8.9 | 100 |
| Making firebreak | 90.1 | 1 | 8.9 | 100 |
| Tree planting | 91.1 | 2 | 6.9 | 100 |

**Source**: Field Survey Data 2008.

### *Land Ownership and Planting of Trees*

The study revealed that 89.1 percent of the respondents owned land mainly being acquired by inheritance; and out of this only 26.7 percent had planted trees in their plots of land (Table 7). When those who had planted trees were asked the cause of their decision to plant trees, they said that it was to implement what they had heard in the village general assembly: that people were to plant trees. 62.4 percent of the respondents who owned land had not planted trees in their plots.

**Table 7: Land Ownership and Planting of Trees**

| | | Planting of Trees | | | | Total | |
|---|---|---|---|---|---|---|---|
| | | *Yes* | *%* | *No* | *%* | *Freq.* | |
| Land Ownership | Yes | 26 | | 64 | | 90 | 89.1 |
| | No | 1 | | 10 | | 11 | 10.9 |
| **Total** | | **27** | **26.7** | **74** | **73.3** | **101** | **100** |

Source: Field Survey Data 2008

In the FGD we noted that many people did not plant trees because they had no tree seeds, i.e., the government had not provide them with seed plants. Others complained that they had been trying to plant trees but the big problem had been unreliable rainfall and termites that attack young trees. This showed that communities were largely dependent on the local government for the supply of seedlings and other materials. However, there were some villagers who had their own seedlings (See Plate 3).

**Plate 3:** A tree nursery of *mlingoti (Eucalyptus Genus)* established by one villager in Masaulwa village. Trees were to be planted to his plot.

## Perceptions of Local Communities on the Role of CBFM on Forest Resources

With regard to the current status of forest resources in the study area (Table 8), 76.2% of the respondents acknowledged to have seen some changes in forest cover since the adoption of the CBFM. About 21.8% reported that somehow there were some changes; while 2% said that no changes occurred in the village forest reserve.

**Table 8: Perceptions of the Local Communities on CBFM**

| | Village | | Total | |
|---|---|---|---|---|
| | ***Masaulwa*** | ***Kidugala*** | ***Frequency*** | ***%*** |
| Yes | 24 | 53 | 77 | 76.2 |
| No | | 2 | 2 | 2.0 |
| Somehow | 9 | 13 | 22 | 21.8 |
| **Total** | **33** | **68** | **101** | **100.0** |

**Source**: Field Data 2008.

The research findings in Table 9 shed light on the extent to which respondents reported improvements of forest and non-forest resources. About 73.3 percent reported increased forest cover (See Plate 4); 70.3 percent noted increased roofing grass; 58.4 percent said previous dried water source started to give some water out; 57.4 percent reported reduced fire onset cases; 49.5 percent said wild animals and bird varieties had started to inhabit the forest; and 48.5 percent reported an increased honey harvest.

**Table 9: Distribution of Respondents on Perceived Changes On Forest and Non-forest Resources**

| | Yes | No | Somehow | I don't know | Total |
|---|---|---|---|---|---|
| | % | % | % | % | |
| Increase in forest cover | 72.3 | 2.0 | 21.8 | 4.0 | 100 |
| Increase of roofing grass | 70.3 | 2.0 | 24.8 | 3.0 | 100 |
| Increase of honey harvest | 48.5 | 5.0 | 42.6 | 4.0 | 100 |
| Wild animals & bird varieties started to inhabit | 49.5 | 4.0 | 41.6 | 5.0 | 100 |
| Water sources started to give some water out | 58.4 | 5.0 | 32.7 | 4.0 | 100 |
| Reduced fire onset cases | 57.4 | 5.0 | 35.6 | 2.0 | 100 |

**Plate 4:** A formerly heavily disturbed forest of Chauyiva at Kidugala village, now under village forest reserve being acknowledged to have regenerated after adoption of the CBFM.

## People's Perception on the Role of CBFM on their Livelihoods

The study revealed that only 15.8 percent of the respondents reported improvement of their livelihood, and that had a direct link with the

management system; while 83.2 percent of the respondents said that there was no improvement on people's livelihoods as no harvesting of forest resources had been allowed since the introduction of the CBFM five years ago (Table 10).

**Table10: Perception on Improvement of People's livelihoods**

| | Frequency | Percent |
|---|---|---|
| Yes | 16 | 15.8 |
| No | 84 | 83.2 |
| Somehow | 1 | 1.0 |
| **Total** | **101** | **100** |

**Source**: Field Data 2008.

However, it was noted that those who said there were some improvements included mushrooms gatherers, roofing grass and thatch collectors, and honey collectors (Plate 5)

**Plate 5:** A traditionally made beehive, the owner acknowledged an increased harvest hence more sales since adoption of CBFM of the Kilongo forest reserve in Masaulwa village.

## Challenges Facing Community Based Forest Management

Respondents were asked first to identify the constraints hindering the effectiveness of the CBFM. They asserted that the lack of community willingness to participate in forest management activities was a big problem in both villages. In the FGD it was found out that people were unwilling to participate in such activities because they did not see their immediate benefits. It was also reported that prolonged drought was a cause for failing to manage seedlings. Frequent failures made some of the community members lose interest in community based forest management.

The lack of funds for implementing forest management activities was also mentioned to be a constraint. 70 percent of the respondents complained of the lack of financial assistance from the district council. They said that if they could be supplied with funds they could use it to buy tree seeds, anti-termites chemicals that attack young trees, and polythene bags for seedlings preparation. The chairman of the village environmental committee acknowledged that even though they had been given two bicycles for fire alert, these were functionless as the forest area was hilly where no one could ride a bicycle. The district forest officer acknowledged the shortage of funds, which was a setback for the smooth implementation of forest management. He said that the annual forestry and beekeeping budget was only TZS5,000,000, which was not enough.

Also, 90 percent of the respondents complained of the shortage of skilled manpower in forest management activities. They said that such experts had attended them only twice since the adoption of CBFM. When the district forest officer was interviewed he acknowledged that there was a shortage of qualified manpower to all natural resource sectors; and that this was a problem that contributed to the slackening of forest management activities.

## Policy Measures for Improving Community Based Forest Management

About 38.6 of the respondents emphasized the need for sensitization programmes that included education and training on community forest management and wise use of forest resources (Table 11). While 21.9 percent of the respondents proposed the need for increasing forest experts at local level who could help them in forest management activities, 27.7 percent emphasized the strengthening of tree planting campaign by providing the local community with tree seedlings, ant-termites chemicals, polythene tubes and transport.

**Table 11: Suggestions for Sustainable Forest Management**

| | Frequency | Percentage |
|---|---|---|
| More education and training | 39 | 38.6 |
| Strengthen tree planting campaign | 28 | 27.7 |
| Increase forest experts | 22 | 21.9 |
| Enforcement of various by-laws | 7 | 6.9 |
| Improvement of financial capital | 5 | 4.9 |
| **Total** | **101** | **100** |

**Source**: Field Survey Data 2008

Moreover, they also proposed the enforcement of various principles and by-laws (6.9%), which would guide resource use in the district. Others proposed

the improvement of the community's financial capital for the implementation of forest management (4.9%). The chairman of the Masaulwa village environmental committee emphasized the need for increasing natural resources extension staff so as to improve extension services in the district. The district forest officer proposed that community participation in forest management should be promoted by the district council in collaboration with various NGO's, institutions, the private sector and individual farmers in planting trees and managing the forest resources as a whole.

## Conclusion

CBFMM has not been well understood by local communities as they have continued to depend on government institutions to run and fund forest activities that are owned by villages. Village communities do not feel that they own the forests, and hence are responsible for funding the forest activities. Some of villagers become disinterested in forest activities as they do not see the benefits of their involvement. Thus the success of the CBFM in the two villages has been largely been to the work of the village environmental committee and the local government authorities. Hence, there is need for the government to empower the local communities so that they understand their responsibilities as owners of village forests, and thus contribute to sustainable forest management.

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