

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM
DIRECTORATE OF FORESTRY



Participatory Integrated Forest Management Plan



For Okongo Community Forest

Final Document

Implementing authority:

Okongo Forest Management committee

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Title: Omunghete - Mangeti (*Schinziophyton rautaneii*) Tree in the Forest

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0 Abbreviations & Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CRIAA	Central Research Information Action in Africa
DOF	Directorate of Forestry
FMC	Forest Management Committee
FMP	Forest Management Plan
FANR	Food Agriculture and Natural Resources
FSTCU	Forestry Sector Technical Co-ordination Unit
OCF	Okongo Community Forest
GTZ	Gesellschaft für technische Zusammenarbeit
IGA	Income Generating Activity
MAI	Mean Annual Increment
NACOBTA	Namibia Community Based Tourism Association
NTFP	Non Timber Forest Products
PSPs	Permanent Sample Plots
SADC	Southern African Development Community
SANPROTA	Southern African Natural Products Trade Association
SMIF	Sustainable Management of Indigenous Forests
SARDEP	Sustainable Animal Range Development Programme
TA's	Traditional Authorities

1 General Information

Namibia is one of the four SADC member states receiving financial and technical assistance from the Federal Government of Germany to implement a project on sustainable management of indigenous forests. The concept is to develop sustainable strategies for involving rural communities in managing their forest resources and derive sustainable livelihoods.

In Namibia the project is implemented by the Directorate of Forestry in the Ministry of Environment and Tourism. The project area is located in Okongo in the Eastern part of the Ohangwena region.

The project goal is to uplift the living standard of the participating communities while the project purpose is to ensure that the forest resources are sustainable managed with full participation of the local community.

The project logical frame is revisited every after two years or at the end of each project phase to reformulate the project measures and activities according to the level of achievement in the project implementation.

The project has been implemented in phases as follows:

April 1998 – September 2000:	Pilot phase
October 2000 – September 2002:	Implementation phase
October 2002 – September 2006:	Consolidation and phasing out phase

One of the outstanding activities in the last and final phase is the formulation and implementation of the forest management plan.

2 Introduction to the Plan

This integrated forest management plan for Okongo Community forest is a culmination of information and data obtained from various studies conducted and activities implemented before and during the project intervention period from April 1998 up to today.

The backbone or strength of this plan lies on the facts that most of the activities described have already been tried and evaluated for their impact on sustaining the forest resources and livelihoods of the communities. The other strength is that the community forest By-laws and some of the activities are based on traditional management guidelines which the communities have been following long before the project interventions. These traditional guidelines are particularly involving the regulation of grazing and management of range lands, protection of fruit and timber tree species and control of settlements.

The plan is integrated because it embraces a wide range of issues outside the forest scope such as, grazing rights and range management, water point management, HIV/AIDS pandemic, issues of marginalized groups and land tenure within the community forest.

It is for this reason that a broader based stakeholder participation was sought in the preparation of this plan and in some cases memorandum of understanding had to be developed to compliment this plan (see Annexes).

The main stakeholders included in the planning were as follows:

The **Directorate of Forestry** as the implementing agency of the project is always involved in planning and decision making. It gives the administrative and technical support with their staff and their counterparts working direct in the area.

The **Directorate of Veterinary Services** regarding the issues of obtaining harvesting permits within the Quarantine area and addressing animal health issues within the community forest.

The **Ministry of Lands** were integrated on the basis of providing permission to occupy (PTO) securing tenure rights for the communities to have equal access to the community forest and addressing issues of fencing and cultivation.

The **Directorate of Rural Water Supply** has been involved in creating water points and their management through water points committees.

The **Ministry of Legal Affairs, Attorney General's office** was consulted to verify the community forest By-laws.

Issues of AIDS and literacy have been addressed in consultation with the **Ministries of Health and Basic Education** respectively.

The main studies conducted, which have been the source of information, are the following.

- I The participatory Rural Appraisal conducted in March 1997 by the Desert Research Foundation of Namibia.
- II Forest inventory for Okongo, conducted in 1999 by the National Forest Inventory Under the Namibia Finland Forestry programme
- III The Social Economic survey conducted in 2000 by Ogongo Agricultural College
- IV Study on Non Timber Forest Products conducted in 2001 by Henry Mahenga
- V Assessment of the training needs for stakeholders in Okongo Community Forest conducted in 2001 by Shatona Kalifeni and Nekwaya Johannes
- VI Study of Indigenous Technical Knowledge (ITK) conducted in 2001 by Shatona Kalifeni and Nekwaya Johannes
- VII A participatory planning workshop conducted in May 1997 and facilitated by Dr. Jere from Malawi in which a problem tree was identified.
- VIII A one day workshop held in August 2002 at Omauni and facilitated by Bernhard Pfaff (Forestry adviser for SMIF central project Malawi) and William Mitembe (Forest Officer Malawi).
- VIX A survey on the current utilisation of natural resources conducted from 21 to 24 April 2003 by Michael Otsub and Project staff

Apart from the studies conducted, two project evaluations were conducted in 2000 by D.P. Lemhöfer and J.M.V Luhanga and in 2002 by Mr. Chadza William.

The project also held 8 National Steering Committee meetings prior to the commencement of drafting the plan. Community meetings were regularly held to get the views of the project beneficiaries and to provide a broader participation of other stakeholders

The contents and structure of the plan has been guided by the **Forest Act No.12 of 2001 Section (12) a, b, c. and d** which provides the guidelines for the requirements of a Forest Management Plan.

The forest planning unit with support from the Namibia Finland Forestry programme has developed some guidelines which all the FMP in Namibia have to follow.

The plan is for 5 years starting from the year 2002 to the end of 2006. This plan is subject for change after yearly evaluations are conducted or if some objectives may have altered or new objectives may arise during the proposed time.

3 Ownership and Management of the Forest

Okongo community forest falls in the communal land tenure system involving 20 villages as follows:

Contiguous to the community forest

1. Oshushu
2. Omauni West
3. Oshalande
4. Kumininenge

Inside the forest area

5. Omauni East
6. Oshimanamwene
7. Otutunda
8. Eloo
9. Omwandi
10. Okanyandi
11. Ombongola
12. Okatope I
13. Okatope II
14. Ohiki
15. Okanaimanya
16. Ekofya
17. Ombumbuma
18. Emanyanya
19. Okashalandona
20. Oshikome

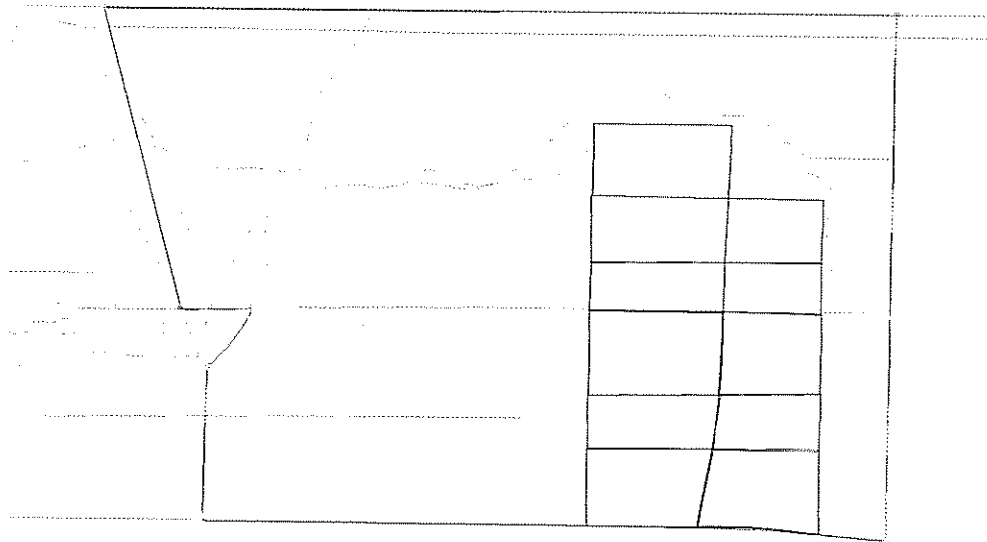
In the social economic survey conducted in 2000, the 20 project villages had 1100 Ovakwanyama and 150 San. These are primary users of the community forest each of the 20 villages has one or two elected representatives who form a management body called the forest management committee. The forest management committees are the custodian of Okongo Community forest on behalf of the community and they will take a leading role in the formulation and implementation of this forest management plan.

Their specific functions and duties are contained in their constitution appended to this plan. Their constitution is supported by the **Forest Act No.12 of 2001** and the **Traditional Authority Act No. 17 of 1995**.

4 Physical Description of the area

4.1 Location

Okongo Community Forest is located in the northern part of Namibia within the Okongo constituency in the eastern part of Ohangwena region. The community forest is situated about 52 km east of the settlement of Okongo bordered to the north by Angola and to the east by Okavango region.



Co-ordinates of main points

	X	Y
1	17.62367336	-17.32943327
2	17.72266283	-17.32943327
3	17.93992779	-17.41926262
4	17.72646925	-17.43273163
5	17.72733477	-17.54568286
6	17.74688167	-17.52332333
7	17.71646221	-17.32339367

Okongo Community Forest Boundaries

Compiled by NRSC

Legend	
	Okongo Community Forest
	Boundary points
	Quarantine Camp
	tracks



Map of Okongo Community Forest

The forest area occupies **75.518 ha** and within this area is also a Quarantine area covering approximately **19.640 ha**. The Quarantine is to improve the marketing of the livestock from the Northern Communal Farmers. Thus, the exact size of the community forest is **55.918 ha**.

4.2 Climate and soil

The mean annual rainfall ranges between 450mm and 600mm with long dry season from March to October and short wet season between November and February. The average annual temperature is 34°C with an altitude of 1000m. Frost occurs mainly between June and August. Frost occurs annually and can be severe to exotic tree species such as *Carica papaya*, *Psidium guajava* and *Kigelia africana*. The soil ranges from sandy loam and loam clay. Most of the forest area has deep Kalahari Sand

5 Forest Resources

The OCF forms part of the unique *Baikiaea plurijuga* woodlands found in Southern Africa. The woodlands are characterised by thick deposit of Kalahari Sand. A total of 56 woody species were recorded in the Okongo Community Forest. The woody vegetation is concentrated in the tree layer, although there is a considerable shrub layer. Common tree species found are *Baikiaea plurijuga*, *Burkea africana*, *Pterocarpus angolensis*, *Combretum collinum* and *Terminalia sericea*.

The tree volumes of the main timber species are as follows (Angombe et al., 2000).

■ <i>Baikiaea plurijuga</i>	67100 m ³ or	1.2 m ³ /ha
■ <i>Pterocarpus angolensis</i>	48100 m ³ or	0.86 m ³ /ha
■ <i>Burkea africana</i>	4200 m ³ or	0.08 m ³ /ha

The total tree volume per ha is 43.2 m³ with 210 stems/ha, which shows the high species diversity of these forest. The volumes and numbers of stems in the OCF are very high for Namibian conditions. In fact, the average volumes in the area are the highest found in any area inventoried in Namibia so far.

Out of these tree volumes, 15 % for *Baikiaea plurijuga* and 30 % for *Pterocarpus angolensis* are saw log volumes. Although, these resources may attract a small scale utilisation for sawn timber. An agreement has been reached for utilising dead timber trees only. The existing forest cover is conserved for Biodiversity and carbon sinks. Namibia is a signatory to the KJOTO protocol on Global warming and as such about 10% of her land area is supposed to be left under forest cover. This forest contributes to the percentage of that land area. The local people have also agreed to guard against deforestation in order to maintain the climatic conditions particularly rainfall, which they depend on for their crops and grass for grazing.

There is quite a high amount of dead trees (deadwood) in the area. The total deadwood volume in the Community Forest is 310800 m³ or an average of 5.6 m³/ha. The biggest volumes of deadwood are found among *Baikiaea plurijuga*, *Burkea africana*, *Guibourtia coleosperma*, *Combretum collinum* and *Erythrophleum africanum*.

Due to the open structure of the OCF area, grass is covering ¼ of the soil in almost the whole area. This is a moderately high grass cover. There are areas defined as "Closed Woodland" with 30 % grass cover in 41 % of the area.

The grass species can be divided in annual and perennial grasses.

The forest area provides grazing to thousands of cattle and other small livestock. It is grazing which attracted many settlements to the area. The settlements started as cattle posts and now have been expanded into permanent villages.

A study on NTFP revealed significant number and amount of forest products available within and around the communal forest reserve (Mahenga, 2001).

In the whole forest there are:

■ 16 types of fruit trees:

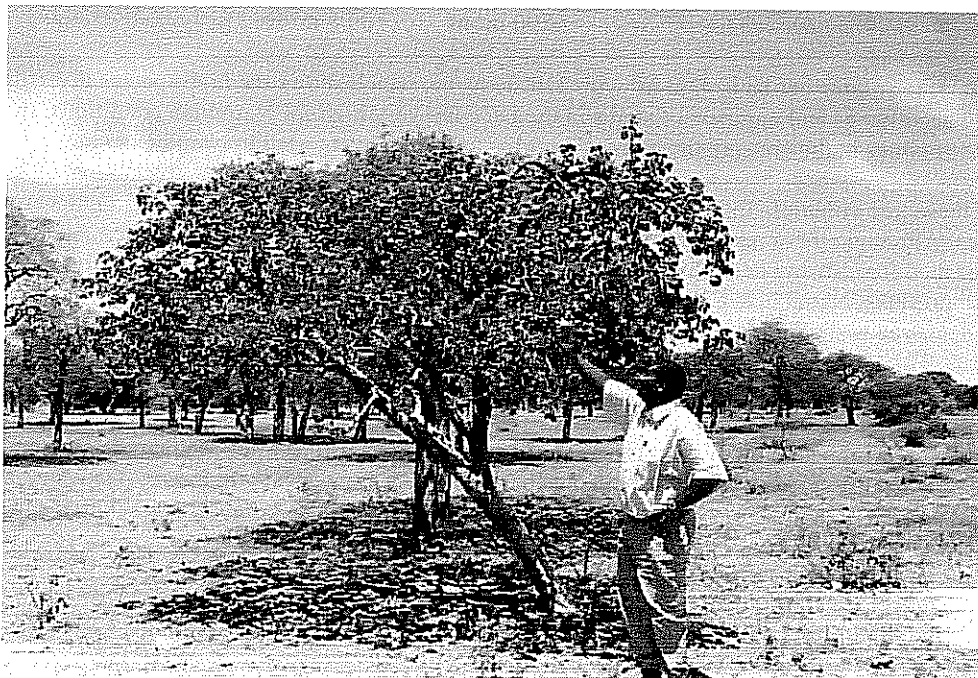
These are dominated by *Schinziophyton rautaneii* (Omanghete) and *Strychnose cocculoides* (Omauni). Omanghete is currently being utilised for brewing ovambo gin (Ombike) and making oil from the nuts while Omauni fruits are eaten unprocessed.

■ 4 edible worms:

These ranges from those feeding on *Burkea africana* such as Omaungu, Okawakole and Olele to Omahandja feeding in cow dung, during the rain season. The worms are consumed locally and some are taken to the market in Okongo, Ondangwa and Oshakati.

■ 4 species of honey bees are found.

Honey collection is not so much exploited and it is only done by individuals, particularly San men and cattle herders.



Omauni (*Strychnose cocculoides*) Tree with fruits

In addition to these products, there is a great potential for thatching grass and processing of fuel wood from deadwood.

The uniqueness of the forest and the traditional life of the San people bear a lot of potential to develop certain sites in the forest as Tourist attractions.

6 Current use of resources

There are about 115 households in 20 settlements inside and adjacent to the Community Forests (FMC, 2003). About 45 households are within the community forest while 70 are contiguous to the forest. According to the Okongo Forest Management Committee, people living in the area are not extracting woody resources from the proposed community forest area. However, the 45 households within the community forest utilise the forest resources in small quantities for construction of huts and kraals. The main occupation for these people is cattle herding. Cultivation is done on fields that were opened before the signing of the consent in 1996 for the proclamation of Okongo community forest

6.1 Poles

According to the interviews conducted with the community, an average household requires the following number of poles for construction:

- for the courtyard 1400
- fencing 2200 and kraal 600

Renovation of huts can be done in households both inside and outside the community forest, while the construction of new huts is only allowed for households outside the community forest.

Both for renovations and construction, about 1000 poles are needed per household. Every fourth year a house is constructed or renovated, which then translates into 29 houses per year.

This means that about **29,000 poles are used for construction annually.**

The preferred species for construction poles are:

- *Terminalia sericea*
- *Combretum collinum*
- *Burkea African*
- *Baieae plurijuga*
- *Croton gratissimus*
- *Dicrostachys cinera.*

It seems that the community forest is not the main source for construction poles. Even if it was, the harvest is still within sustainable amounts.

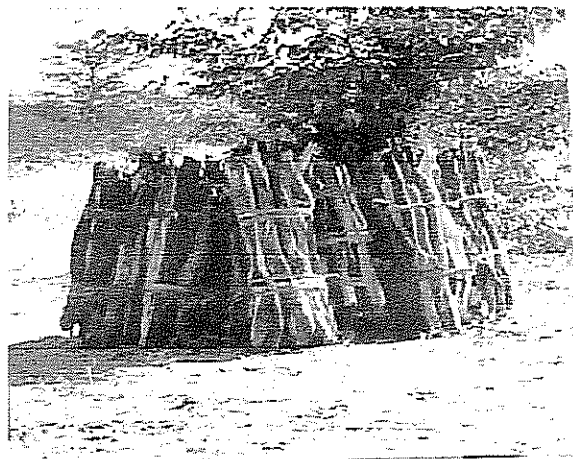
6.2 Fuel Wood

Also, during the three-day participatory rapid appraisal conducted by the working group, most of the interviewees confirmed that they collect a 10 kg fuelwood's bundle per day.

This translates into **3650 kg of fuelwood per household per annum**. Their annual consumption is **42 tonnes of fuel wood for the whole community**.

The inventory results have given about 26 dead trees per hectare and a total of 1,470,000 dead trees in the inventory area (Angombe *et al.*, 2000). It is difficult to predict sustained yield for fuelwood because annual accumulation of deadwood biomass is difficult to determine accurately. Hence, it is cautiously proposed that 10% of total dead trees would be harvested for fuel wood annually for the harvesting cycle of 10 years. This would result in 147,000 dead trees being harvested for fuelwood annually.

Firewood is becoming scarce for households outside the community forest. This problem is compounded by fences forcing people to collect fire wood in between corridors of fences. Generally, community members travel an average distance of 5 km to collect firewood from free areas. Therefore, it is very important that the removal of large fences from the communal areas is done to provide such needed resources to every member of the community. The Traditional Authorities can then allocate quotas for harvesting firewood outside the community forest. The current situation of fuelwood shortage caused by illegal fences poses a threat to the community forest in creating unrealistic demand on firewood.



Fuelwood bundled ready for Sale

6.3 Thatching Grasses

In addition, thatching grasses are used a lot in construction and renovation of huts. In a hut construction a small and a large hut needs an average 25 and 30 bundles respectively. An average weight of the bundles is 10 kg, thus about **104 tonnes of thatching grass is used for construction annually**. About three huts are renovated for each household per annum.

The information on the quantities of non-woody forest products utilized by the community is very patchy, apart from fruits. Therefore, no prediction was made on sustainable yields for the products.

7 Estimation of sustained yield (Allowable harvesting)

According to the inventory results, there are some possibilities for harvesting poles.

These possibilities are with:

- *Baikiaea plurijuga*
- *Pterocarpus angolensis*
- *Terminalia sericea*
- *Burkea Africana*
- *Combretum collinum*.

A mortality rate of 10 % has been used to provide sustained yield for these species for diameter class 5-15 cm. Similarly, mortality rate of 20% has been used to calculate sustained yield for diameter classes greater than 15 cm. In practice, portion of these dying trees can be harvested. However, this has not been taken into account in the calculation.

The sustained yield estimation is based on diameter growth and movement of trees to bigger size diameter classes. In the calculation, the structure of the forest is kept unchanged. Therefore, an increase of stems in a certain diameter class allows harvesting.

Growth rates from a study by DoF were used (Worbes, 2001). It is proposed that about **620,000 stems could be harvested from all five tree species annual**. The proposed annual allowable harvesting guidelines are given in tables 1-5 in Annex 6.

8 Objectives for Forest Management

8.1 Core problem

Although the human population is less compared to the amount of forest resources available, there is an influx of outsiders seeking new settlements and grazing because the resources in other regions have been depleted. Therefore the main problem is forest degradation, through uncontrolled grazing.



Uncontrolled cattle grazing in the Forest Reserve

8.2 Other problems

- illegal fencing to convert forest into farmland
- uncontrolled harvest of fruits
- man-made forest fires
- cutting living trees for poles and firewood

8.3 Overall objective

The overall objective for Okongo Community Forest Area is to:

Conserve and protect the forest, and utilise it in a sustainable manner so that it will be available for use by present and future generations in the upliftment of their livelihoods.

Furthermore the forest is important for its richness in species for both flora and fauna, and for its ability to attract rain which is very important for farming in the area, and the forest also protect soil from wind erosion.

8.4 Present objectives

1. To regulate and control the available forest resources for grazing of livestock and wildlife,
2. To guarantee a steady sustainable supply of firewood and construction timber for the community and for sale,
3. To utilise and increase the number of various fruit trees for the daily needs of the local people particularly the San,
4. To use NTFP (like caterpillars, medicinal plants, thatching grass) in a sustainable manner for the benefit of all community members,
5. To prevent man made forest fires in the OCF

8.5 Future objectives

1. To improve the marketing of forest products,
2. To attract tourists to the area as an additional source of income for all members of the community and to implement forest activities,
3. To research on the possibility of sustainable utilisation of living trees for marketable timber out of the forest,

9 Forest Management Approach

The management measures will be guided by the development policies, which define sustainable forest management as to manage forest resources in a way that the current forest needs are met and maintained or increase the level of productivity potential of the forest. To use the forest resources now without damaging its resilience.

The management measures will focus on 3 main silvicultural operations, *forest protection* from any form of forest destruction, such as veld fire, unwanted settlements and wanton tree destruction. The other measures will focus on *forest and tree regeneration* aimed at increasing the forest resources through tree planting and promoting natural regeneration in selected areas.

The last set of management measures will focus on *forest utilisation* to satisfy the needs of the participating communities. In order to satisfy the current needs for timber, communities will have limited access to selected timber resources particularly naturally dead *Pterocarpus angolensis (Omuuva)*, *Baikia plurijuga (Omupapa)* and *Burkea africana (Omutundungu)*.

Management measures related to issues of *grazing* will be described, although the management issues on livestock carrying capacity may need more time and research to arrive at specific recommendations for ideal numbers of livestock to graze at specific times in the forest.

9.1 Forest protection

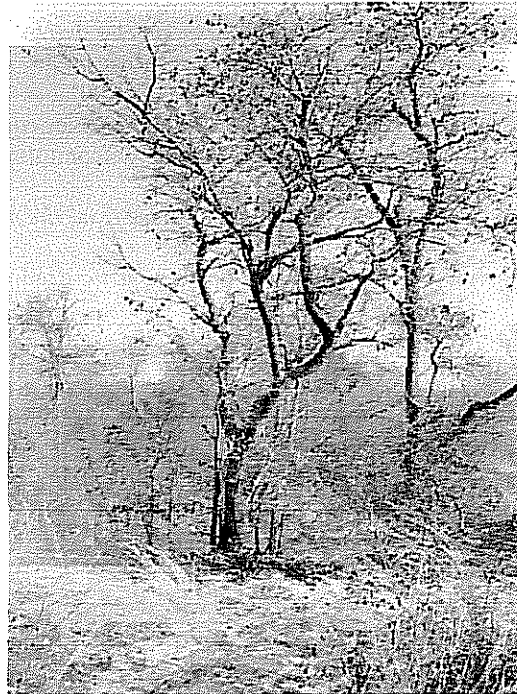
Most of the measures related to forest protection will be implemented through the existing community *By-laws*, particularly those related to forest destruction, through settlements and wanton destruction of trees. Bush encroachment areas such as Okatope and Ohiki shall be de-bushed to promote grazing.

Fire management

Measures related to fire management would involve the maintenance of *firebreaks* (especially along the border with Angola), awareness meetings and the creation of fire management groups in each of the settlements. *Fire management groups* will also take a leading role in quenching fires that may occur within the forest.

Another measure to *protect living trees from bush fires*, is the removal of dry branches and twigs from harvested trees out of the area near standing trees.

The management of fire in areas where fuels accumulate has become a threat in case of fire occurrence. Traditionally people have introduced fires in the forest area during the months of October, November to encourage the regeneration of palatable grass species. More observations need to be done to finally adopt this practice as part of the forest management plan. This is because of the threats this practice has to trees. During this time (October/ November) trees have new leaves and flowers, some have already put up fruits, the introduction of fire may therefore have disastrous results for forest management. However this can be tried in test areas in the eastern part of the forest where there is plenty of grass. *Controlled burning techniques* could be used in areas with perennial grasses to encourage more fodder growth for grazing animals. Traditionally it is observed that grass is having moisture during October and November and hence may not cause any danger for burning.



Man-Made Bushfire in the Reserve

Forest regeneration

Forest regeneration measures will include identifying *areas* that need to be *fenced off* or totally protected from grazing for a specific period of time to allow *regeneration* of trees and grass. Such areas may include some parts of water points which have been degraded by livestock. Parts of such areas may need to be fenced off for a specific period of time especially during the rain season when water supply is adequate in the forest. Such areas may also be *planted with trees (wildlings)* to speed up the rehabilitation process.

Tree planting will be promoted in homesteads and areas identified for rehabilitation in order to increase the forest resource base and reduce dependence on indigenous forests.

Trees planted should come mainly from *community based nurseries*, which are stocked with indigenous trees and exotic fruit trees. These trees should be planted within and around homestead to ensure proper management.

10 Forest utilisation

10.1 Harvesting of timber

Forest utilisation measures will involve activities for promoting the sustainable utilisation of indigenous forests.

This will include regulating the *harvesting of selected timber species* that may be used for local furniture making by well identified and registered groups or individuals. This activity shall be highly monitored by the forest management committee to avoid overexploitation of living timber species that may attract an influx of outsiders for commercial exploitation. To harvest living trees for commercial purposes needs some more research on MAI of the main timber species and a strict monitoring of the harvest.

In the initial stage timber harvesting will be limited to dead trees from the main timber tree species.

The following guidelines are agreed for selecting harvesting quotas for dead wood in the community forest.

Quantity and quality of the dead wood

When harvesting dead timber trees, poor quality trees will be left for environmental values such as habitats and food for organisms. Timber trees that died from fire are normally of poor quality as compared to those that died from old age and other means.

Accessibility

Only quotas that are easy to reach will be harvested. This will avoid waste of timber that may be in the forest over along period of time after harvesting.

Demand

The demand for sawn timber will affect the selection of quotas, however, the issuing of harvesting permits shall be controlled in order to avoid over exploitation. Demand shall also be controlled by harvesting methods. Harvesting shall be done by small scale equipments such as small mobile equipments and hand saws.

In line with the above mention guidelines the following list of harvesting quotas is here by proposed:

- Quarantine Farm
- Ohiki
- Okatope
- Omwandi

These harvesting quotas have enough dead timber resources to last a year if the guide lines are followed.

10.2 None timber forest products

The main emphasis on forest utilisation shall be the promotion of Non Timber Forest Products, whose intervention will promote the management of indigenous forests. The *harvest of such products shall be permitted and monitored* by the FMC. Such activities will include the *harvesting and processing of indigenous fruits* which have already been identified, *bee keeping, collection of caterpillars (worms) processing of firewood and harvesting of thatching grass.*

The *funds* generated from these ventures shall be used to implement forestry activities as well as satisfying communal needs. It is envisaged that by the time of evaluating this forest management plan, most of the activities, which are community based will be sustained through these income ventures and by 2004 the project will have reached sustainability as far as implementing activities for sustainable management of indigenous forest is concerned.



Ombike Brewery from Mangeti Nuts

10.3 Grazing

Utilisation of the forest area for grazing will be one of the main issues to tackle in this management plan. With traditional laws livestock in the forest area was only allowed during the dry season, whereby in the rainy season animals fed on better grasses outside the area. Thus the herding of animals was an important measure to lead livestock in desired direction. Nowadays livestock is not herded because of workload and outside owners and nobody can control the movement of grazing. Therefore the FMP should first focus on the *enforcement of By-laws, to control the movements of livestock* in the community forest, but it shall also focus on a development of an agreed *grazing scheme* for OCF area.

The first two years of this plan should concentrate on enforcement of by-laws regarding the movements of livestock or the rights to grazing while specific studies should be conducted on *carrying capacities* taking into account the number and distribution of water points and distribution of palatable species. These issues shall be integrated more after 2003 when this plan will be evaluated.

A *simple grass inventory* together with the community members could help to identify suitable areas for grasses, areas for controlled burning or areas where there should be no grazing allowed. After this inventory certain test areas for *rotational grazing* could be established.

Currently there are signs of land degradation around most water points due to a high concentration of livestock (mainly cattle). This is due to few public water points as the private ones are fenced off (*Water point Management*). The existing illegal fences within the community forest have a negative bearing on grazing as many animals graze between the corridors of these fences. Currently this degradation is not evident because animals are passing through to graze in Angola, reducing pressure on the community forest. In order to increase the grazing area in the community forest, *all illegal fences should be removed*. Empowered with gazetted By-laws and land policy on communal land, the FMC should be able to carry out this exercise without hindrance.

Controlling the movements of cattle into and from the community forest will form the basis to ensure a sound-grazing regime. The current efforts by the Ministry of Agriculture, Water and Rural Development to ensure that all *cattle is branded* with the initials of the owner and region is a very positive step in controlling and monitor the entry of livestock into the community forest. The Forest Management Committee should take a leading role in the enforcement of this regulation and using their records for monitoring.

GTZ through SARDEP implemented a *research plot on range management* at Oshushu, which is now, one of the project villages. The results so far obtained from this project (now run by Agriculture) should be examined and see which recommendations should be integrated later in this plan.

10.4 Water points areas

Management of water points will be part of the management measure to avoid land degradation resulting from overgrazing.

Some areas of water points should be fenced off and direct seeded or planted with wildlings to enhance regeneration. The water point committee should be involved in the actual rehabilitation of water points. The project could support with fencing materials, seedlings and training.

10.5 Income generating activities

As the project comes to an end in the year 2006, there should be measures to ensure sustainability in implementing the FMP. Another issue is to draw attention to all community members by participating in forest management activities. The project already started some *JGA*'s, which are quite successful and should continue to ensure sustainability. The funds, which are generated from these activities, should be saved in a *community fund* for implementing forest management activities and other needs of the community.

Income generating activities already implemented:

- domestication of Guinea fowls
- Operation of a hammer mill on the project office
- Bee keeping demonstration plot
- Forest permits

Planned activities in future:

- Improvement of a camping place near the project office
- Opening a store for displaying forest products and San crafts
- Extension of Bee keeping activities



Road sign showing the Community Campsite to Travellers

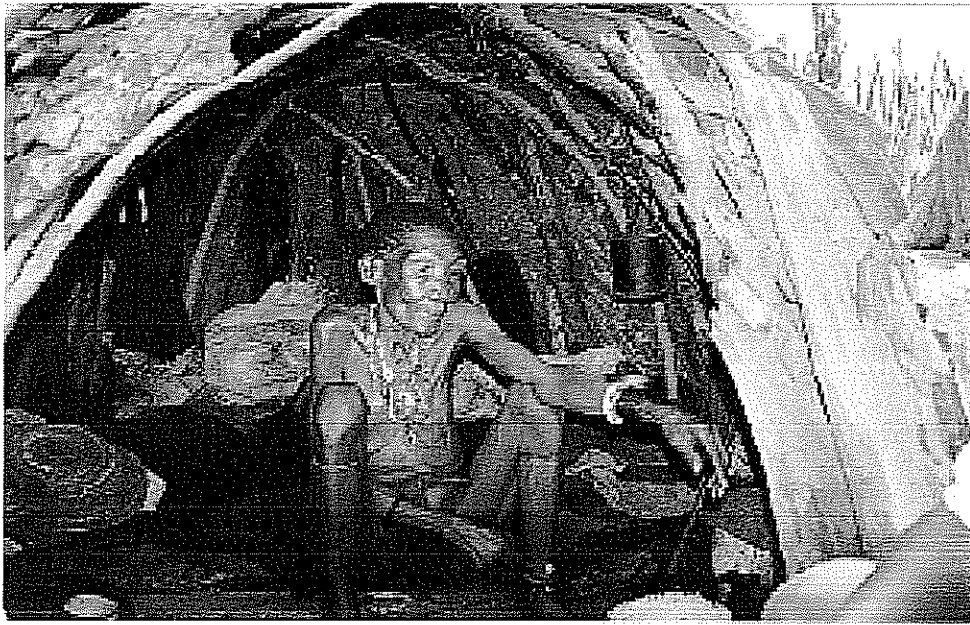
10.6 Integration of San

The San community shall continue to be represented in the forest management committee and other forums, where their aspirations shall be discussed.

The *integration of the San community* in the forest management will concentrate on the recognition of their traditional life style, and to use their huge knowledge on natural resource management. The integration of the San community into the main stream of society is still a debatable issue mainly because of their rich indigenous life style, which is hard to change.

The introduction of forest permits to outsiders and allocation of harvesting quotas for fruits may increase the areas available for San to collect fruits from. Providing improved baskets and storage facilities for fruits may sustain their food base and increase the marketability for forest products. Once fruit processing starts the San should be consulted and involved in the initial process and get some remuneration.

The other measure may include recognising and respecting their traditional practices and rituals. The FMC may use small fund to support them in marketing their products such as fruits and crafts. Once Eco-tourism picks up the San might be one of the main tourist attractions, but they should be consulted about their willingness to avoid a high dependency on tourists like in the case of Himba. All the efforts to improve the life of the San should be done within their environment or life style.



Old San Woman in their traditional temporary shelter

10.7 Gender and Aids

Management measures for gender and fighting the AIDS pandemic shall include the *deliberate inclusion of women in the forest management committee and their participation in income generating activities*. *AIDS awareness* in forms of drama, video shows, meetings and promotional materials will continue to be implemented in collaboration with Okongo State Hospital.

11 Monitoring and Control

Especially in sustainable resource management, *monitoring and control* should be considered as important exercises. Although monitoring is already mentioned with other activities, it is useful to name some additional measures.

- The FMC is advised to enforce the By Laws.
- The Forest Management plan has to be revised at after 5 years or after the community finds some adjustments that has to be done.
- Every year there should be discussion together with all stakeholders about the progress.

The community through the forest management committee will mainly monitor the resources that are being removed from the community forest as well as the events that are taking place.

In this regard, the main monitoring tools will be the *permit system and the Forest patrols*. The permits system will monitor the types and quantities of forest resources being removed from the community forest while the forest patrols will monitor the events taking place in the forest such as illegal fences fire occurrences settlements, new borehole, roads and many others.

The Directorate of Forestry will continue to assist in monitoring the growth of the forest through sample plots.

12 Sustainability

Beyond the project period this plan will be sustained by income generating activities currently being implemented through a community trust fund.

These are mainly:

- Mahangu hammer mill
- Domesticated Guinea fowls
- Firewood
- Thatching grass
- Nursery seedlings
- Indigenous fruits
- Camping site fees
- Harvesting permits
- Fines and penalties

An activity planned for main management measures is detailed in the Annex 1. Note that some of the measures detailed in the text are not on the table as they will be implemented along side the ones on the table.

The measures outlined on the table are the ones that have been considered important in the sustainable management of Okongo community forest. They affect the biology of the tree and the social economic well being of the participating communities.

13 References

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ANNEX 1 : Forest Management Plan for the OCF Reserve

Overall Objective: Conservation and protection of the forest and utilisation in a sustainable manner so that it will be available for use by present and future generations
Core Problem: Forest degradation

Causes	Objectives	Activities	Timeframe	Resources	Responsibility	Indicators
<ul style="list-style-type: none"> Uncontrolled grazing Illegal fencing to convert forest into farmland or grazing area 	1. To regulate and control the available forest resources for grazing of livestock and wildlife 2. To guarantee a steady sustainable supply of firewood and construction timber for the community and for sale	Enforcement of by-laws	allways	none	FMC Forest Patrols	Records on law enforcement activities
		Control of the cattle movements	throughout	Outside sources	FMC Ministry of Agriculture	Sound grazing scheme
		Monitoring of fencing	Throughout	Transport	Project, FMC	Grazing Permits
		Brand Mark system	Starting in Jan. 2003	Outside sources	Ministry of Agriculture FMC	Maps, Records Records of Min. of Agriculture
		Fencing-Off around water points for rehabilitation/ regeneration/planting	before each rain season (rotating)	Fencing material, Planting material	Project, FMC	Inventory, Maps
		De-bushing of Bush encroachment areas for grazing	In May, June, July	Pangas, Hoes, Axes	Community members	Record on areas debushed
		Studies on carrying capacity	As soon as possible	Outside sources with cooperation of the project	Ministry of Agriculture, Project Manager	Research results
		Simple grass inventory	In the first rainy season	Project funds, outside sources	Project staff, FMC, Min. of agriculture	Inventory data
		Establishment of test areas for rotational grazing	After inventory	Stationary	FMC, Project	Maps
		Utilization of dead wood for fuel wood & Marketing	Mainly during the dry months	Transport facilities	Project staff, FMC, Local entrepreneur	Record on Permits & Quantities
<ul style="list-style-type: none"> Cutting living trees for poles and firewood 	2. To guarantee a steady sustainable supply of firewood and construction timber for the community and for sale	Selective Timber Use above a DBH of 45 cm (Management system)	Mainly during the dry months	none	Forest Service, FMC	Record on Permits & Quantities, Inventory Data
		Research on M/A and Annual Allowable Cut of main timber species in permanent sample Plots	periodically	Community fund	FMC	Sample plot results
		Issuing of Permits for Quisiders to collect fuel wood/ timber/ construction material	Throughout the year	Stationery	FMC, Traditional Authorities	Record on Permits & Quantities

Causes	Objectives	Activities	Timeframe	Resources	Responsibility	Indicators
<ul style="list-style-type: none"> Un-controlled harvest of fruit trees 	3. To utilize and increase the number of various fruit trees for the daily needs of the local people particularly the San	Issuing of Permits for Outsiders to collect Fruits from the Reserve	From May to October	Stationery	FMC Traditional Authorities	Records on Permits & Quantities
		Involving San Community members in the processing and marketing of the fruits	From May to October	Project budget	FMC Project Staff San Community	Quantities & Revenues
<ul style="list-style-type: none"> man-made forest fires 	4. To promote the use NTFP (like caterpillars, medicinal plants, thatching grass) in a sustainable manner for the benefit of all community members	Promotion of NTFP	Throughout year	Stationery, Packaging & Storage facilities	FMC Project staff	Short descriptions of forest products and their market value (benefits)
		Harvesting/ Processing in a sustainable way	According to availability of NTFP	Stationery, Packaging & Storage facilities	FMC	Records of issued permits and quantities
<ul style="list-style-type: none"> man-made forest fires 	5. To prevent man made forest fires in the OCF	Maintenance of firebreaks along the border	Start early in dry season (March)	Hoes, Pungos, Spades, Shovels	FMC Fire Management Groups	clearly mapped and maintained firebreaks,
		Awareness meetings/ Fire Management groups	Throughout dry season	Project Budget, Government	Project, Forest service	Minutes of meetings
<ul style="list-style-type: none"> un-controlled harvest 	6. To rehabilitate degraded forest areas near settlements	Fire fighting	In case	Fire fighting material	Fire management group	Records
		Controlled burning in test areas	during Oct/ Nov.	Basic tools	Forest Service, FMC	Map of area
<ul style="list-style-type: none"> un-controlled harvest 	7. Promotion of IGA	Removal of fuel from around of living timber trees	During harvesting	Harvesting tools	Project FMC, Community	Observation of forest patrols
		Tree planting near homesteads with fruit trees/ indigenous species	During November to February	Plants (initially), fencing material	Project staff, Individual nurseries	Inventory Data and sample plot data, Record of planted trees
<ul style="list-style-type: none"> un-controlled harvest 	8. To attract tourists to the area as an additional source of income for all members of the community and as a source to implement forest activities	Establishment of individual tree nurseries	Before rainy season	Basic Nursery equipment on loan (comm. Fund)	Project staff, Interested Farmers	Number nurseries Sale records
		Dissemination of knowledge about Guinea fowl rearing	Sept. to Oct.	Stationery, Project budget	Project Community members	Handbook, Farmer to Farmer visits
<ul style="list-style-type: none"> un-controlled harvest 	8. To attract tourists to the area as an additional source of income for all members of the community and as a source to implement forest activities	Hammer Mill as a source for the community fund	Throughout the year	revolving fund, (self reliant)	FMC	Cash book
		Training and extension on Bee keeping for interested Farmers	During the dry season	Project Money (initially), Loan from Comm. Fund for material	external together with San	Number of new beekeepers in the area
<ul style="list-style-type: none"> un-controlled harvest 	8. To attract tourists to the area as an additional source of income for all members of the community and as a source to implement forest activities	Management of a community fund (Benefit Sharing System)	In the first year	Bank account fees	Project Manager FMC	Rules & Regulations for using the fund
		Improvement of camping facilities to attract tourists	Throughout	Project Money (initially) Community fund	Project staff, Interested Community members	Visitor book, Number of Tourists

Causes	Objectives	Activities	Timeframe	Resources	Responsibility	Indicators
	9. To improve the marketing of forest products	Opening of a shop to sell forest products /cottage products incl. San crafts	First year of FMP	Community fund, Project Money	FMC	Sales records
		Find a local entrepreneur to market the products in town	As soon as possible	none	Project Manager/ Staff	Contracts
	10. Gender/ AIDS	Co-operation with Organizations like SANPROTA, CRIAA and NACOBTA to promote or sell products/ services	As soon as possible	Project Money	Project Manager/ Staff	Membership
		Involvement of women in forest Management Activities	always	none	FMC	Quota
	11. To monitor and control all activities	AIDS awareness creation in form of drama, shows, video and other promotional material	Throughout the year	Project money	Project staff	Awareness meetings/ materials
		Revision of the FMP after 5 years, or adjustment when important issues are arising	After 5 years	Community fund	FMC	New or adjusted FMP
		Evaluation every year	Every year	Stationery	FMC	Evaluation report
		-Establishment of permanent inventory plots - Development of an easy understandable inventory method	First year of FMP	Basic measurement material, Stationery	FMC, Project staff	-Inventory records - Handbook on easy inventory method

ANNEX 2 : Forest Management Options for Okongo

Product	Important species	Demand	Supply	Problems/ Issues	Management options	Resource Use Rules
1*. Grazing	Grazing Browsing of annual and perennial species	- High in dry season inside from Outsiders	Demand is higher than supply	- Fencing - Overgrazed water points - Man made forest fires	- Rehabilitation of Water points - Research on carrying capacity - Firebreak, Fire Management Committees	- Law enforcement for illegal fencing - Grazing Permits from T.A's - Branding of livestock
2*. Firewood	<i>Baikia plurijuga</i> <i>Gubbia colesperma</i>	- High outside Project area - Subsistence inside	Abundant	Transport to market	Lying dead wood	- Pole Branches away from living trees - Leave butt end as a ecological niche - Permits for Monitoring commercial collection
3*. Timber	<i>Pterocarpus angolensis</i> , <i>Baikia plurijuga</i>	- low inside - high outside	Abundant	- M/AI Annual allowable cut yet to be established - Transport - Market distance	- using dead wood - selective harvesting above 45 cm DBH (long term)	- Permits to be paid - Gov. Forester marks the trees to be harvested - Training of FMC in simple silvicultural methods (iv. methods)
3*. Poles	<i>Bukwa officiana</i> <i>Terminalia</i> spp.	- high demand for fencing, kranis, homesteads construction - high outside demand	high	- traditional construction methods use high amount of poles - Resources are fenced off	- thinning in overstocked areas - utilizing poles from cleared fire breaks	- preferable use of dead wood - Permits for Monitoring of commercial collection and for revenue
4*. NTFP	Worms Thatching Grass Honey Root tubers Medicinal Plants Ovumbo Gin	- Moderate for subsistence - Potential for Outside marketing	Periodic supply	- Preservation and Storage - Collecting methods	- add value to products (preservation, Packing, marketing) - improved storage/ preservation - Marketing Co- operatives/ local entrepreneur	- Permits for Monitoring of commercial collection and for revenue
4*. Fruit trees	<i>Schizaphyon rotundare</i> (Mango) <i>Strychnos pinnens</i> , <i>Strychnos coccoloides</i> (Monkey Orange) <i>Grewia</i> spp.	- high - Potential for Outside marketing	Periodic supply	- Fruit trees around homesteads ("Private") - Collecting methods - Preservation and storage	- add value to products (preservation, Packing, marketing) - improved storage/ preservation - Marketing Co- operatives/ local entrepreneur	- Permits for Monitoring of commercial collection and for revenue

* Numbering refers to ranking according of importance. Same numbers are the same importance

ANNEX 3 : Community Consent of OCF

The Okongo Community
P.O. Box 334
Ondangwa

2nd May 1996

The Honorable Gert Hanekom, Minister
Ministry of Environment and Tourism
P/ Bag 13346
Windhoek

Through: The Director of Forestry
Windhoek

Re: Consent for proclaiming Okongo Community Forest.

The OKONGO LOCAL COMMUNITY through their legitimate Traditional Local and Regional Authority Leaders under whose jurisdiction the OKONGO FOREST is situated hereby affirm that, it is in our interest that the said forest covering 750 square kilometers with boundaries indicated in Annex 1, be protected and managed as a community Forest.

We therefore confirm that, consent is given to the Government of the Republic of Namibia through the Ministry of Environment and Tourism to proclaim the said forest as a COMMUNITY FOREST.

However, this consent is subject to the following conditions

1. That part from those already settled in the said forest, no new settlements may be allowed. Expansion of existing crop fields shall also not allowed.
2. That within the said forest, an area of 20 square kilometers be demarcated as Quarantine for improving the sale of our local cattle as long as this development does not affect the growing vegetation especially bigger trees of more than 45cm diameter within the Quarantine specified boundaries. This area will be managed through an agreement already signed with the Ministry of Agriculture.
3. That the local people around and within the said forest be allowed to collect dead wood and firewood for their own domestic consumption. The cutting of living trees for domestic use is restricted to avoid deforestation.
4. That the community be empowered to set up a local committee to oversee the management of the forest together with the Directorate of Forestry. The committee will further assist in developing by-laws for the management of this forest.

5. That if in future, there will be an important development programme for the benefit of the local people and that the said forest area will be found suitable for the development of such a project, upon request by the community, the Government will undertake to surrender the said forest area to the Regional council for the development of the project.

In line with the above mentioned conditions: We representing the Traditional Local and Regional Authorities and in presence of community members listed in the attached Annex 2 to this letter TODAY the 2nd of April, 1996 at Omauni do hereby append our names positions and signature to re affirm our written consent for the proclamation of the Okongo Community Forest.

1. Signed Hon. Billy Mwaningange- Regional Governor

2. Signed Hon. Paulus Mwachanyekange – Regional Council

3. Signed Mr. Stefanus Weyulu – Senior Headman

Witnesses Mr. Jericho Mulofwa – District Forest Officer

ANNEX 4 : Constitution of the FMC

1. Locality and general back ground

- 1.1. Okongo Community forest is located in the eastern part of Ohangwena Region between latitudes and longitudes.
- 1.2. The forest area covers 750km² or 75,000ha. Within the forest area is also a quarantine covering ± 18km² or ± 18000ha. The quarantine is to improve the marketing of cattle from the surrounding communal areas. With a memorandum of understanding the community have access to forest resources within the quarantine area. Okongo
- 1.3. In May, 1996 the Community through their traditional leaders and regional councilors gave consent to the government through the Honorable Minister of Environment and Tourism to have the said forest area managed as a community forest.
- 1.4. In 1997 a proposal was developed by the Directorate of Forestry to assist the Okongo community to develop strategies for sustainable management of their forest. The project proposal was submitted to the Federal Republic of Germany who agreed to finance the project through the SADC- sector for Forestry Technical Co-ordination unit starting with a two year pilot phase from July 98 to June 2000.
- 1.5. The development of this forest constitution was part of the project activities to establish and strengthen a local institution for the management of the Okongo forest.

2. Management Objectives

- 2.1. The primary management objectives of Okongo forest according to the community as revealed in the PRA conducted in early 1997 is to provide grazing resource for their cattle which is the main source of their livelihood.
- 2.2. The Okongo forest carries the most valuable timber resource in the Region which if sustainable managed can improve the living standards of The Okongo community through forest based income generating activities And Biodiversity conservation

3. Establishment of a Forest Management Committee

- 3.1. The management of Okongo community forest will be done through a forest Management committee whose establishment, operational guidelines and functions are outlined as follows:

- (1) Description and location of the area.
- (2) Short background

3.2. The communities within the 20 villages in and around the OCF namely:

Oshalande	under headman	Josephat Tawii
Otutunda	under headman	Aron Shinana
Omwandi	under headman	Nathanael Mwahafa
Ombumbuma	under headman	Marthin Kalondo
Okanimanya	under headman	Tuhafeni Nghiwanapo
Okanyandi	under headman	Michael Naingwedje
Emanya	under headman	Samuel Nepunda
Ekofya	under headman	Erastus Shakela
Kumininenge	under headman	Kleopas Haiyaka
Okashalandona	under headman	Kaukuwa Mwashekele
Okatope 2	under headman	Vanhu Nambuwa
Eloolo	under headman	Ikanda
Ombongola	under headman	Lazarus Shapwe
Omauni West	under headman	Tomas Weyulu
Omauni East	under headman	Kaale Haiyaka
Ohiki	under headman	Jason Kombada
Okatope 1	under headman	Penodadi Nghinaunye
Oshiimanamwene	under headman	George Nelulu
Oshushu	under headman	Nghidipohamba Kashihakumwa
Oshikome	under headman	

3.3. Composition

- 3.3.1. Traditional authorities act no. 17 of 1995 section 10(2) (c) namely to ensure that members of the traditional community use the natural resources at their disposal on a sustainable basis and in a manner that conserves the environment and maintains the ecosystems for the benefit of all persons in Namibia.
- 3.3.2. Forest Act no 12 of 2001, section 15 (2) (c) namely confer the rights, subject to the management plan, to manage and use the forest, grazing and other natural resources of the area, including to authorise others to use them, to collect and retain fees and impose other conditions for such use.
- 3.3.3. Forest Act no. 12 of 2001 section 15 (4) namely: community forest shall be managed by the body specified in the agreement in terms of subjection (1) and in accordance with the management plan included there in, and all revenues derived there from shall accrue to such body.
- 3.3.4. These guidelines form the basis for the establishment and operations committee on behalf of the community in the area under the above stated authorities.

3.4. Aims and Objectives of the Committee

The aims and objectives of the committee are:

- 3.4.1. To ensure a better quality of life for all members of the community residing within and around the forest are by encouraging active local participation in the sustainable management of the forest and other resources.
- 3.4.2. To take responsibility at community level for implementing the forest management plan through the issue of forest permits and enforcing by laws through regular forest patrols, issuing of fines and confiscation of illegally obtained forest products.
- 3.4.3. To control and sustain grazing areas, water and wildlife resources in the area.
- 3.4.4. To improve and maintain relations between the community and institutions working in the area. The committee will act as entry points for any future development in the areas for multi sector support to the community.
- 3.4.5. To initiate and control a community fund from the products and services derived from the forest reserve.
- 3.4.6. To disseminate information to and from the community on any issues pertaining to the development of the community forest reserve and any matters of social Economic concern.

3.5. Composition of the Committee

- 3.5.1. The committee shall consist of 17 members with one member from each of the villages within and around the forest reserve.
- 3.5.2. Ex official members shall include the Okongo Regional Councillor, the Regional Governor, Senior Headman Weyulu, The project staff, Donor Agency, DoF, Line ministries and relevant NGOs, they are to be invited to all meetings in an advisory capacity to promote intersectional coordination.

4.0. Qualification for the membership of committee

Committee members shall be

- 4.1. People residing permanently in the area and using the forest reserve on daily basis.
 - 4.2. Selected for their ability to provide direction advice and knowledge of the forest reserve in terms of its boundary and resources distribution and availability
 - 4.3. Between 21 and 50 years of age.
 - 4.4. Any gender
 - 4.5. Easy to contact
 - 4.6. The chairperson, treasure and secretary must be literate and have relevant skills to do the work required of them.
5. Election of committee
- 5.1. The committee members shall be elected at a general meeting by the permanent residents of each of the 17 villages referred to in clause 1.1 above
 - 5.2. The procedure to be followed in each election shall be determined by the residents of that village
 - 5.3. Committee members shall serve for as long as the residents they represent continue to be satisfied with their service and according to their participation in overall project activities.
6. Executive committee
- 6.1. The executive committee shall consist of 4 members elected by the 17 committee members and shall consist of chairperson, a secretary, treasure and vice treasure.
 - 6.2. The executive office bearers shall perform the following functions.
 - 6.3. The chairperson shall have responsibility for calling chairing and providing overall direction to all meetings of the committee.
 - 6.4. The secretary shall have responsibility for organising all meetings and activities of the committee issuing notices concerning all meetings and activities of the committee, recording minutes of all committee, conducting correspondence and ensuring the safe keeping of all relevant documents of the committee.
 - 6.5. The treasurer shall have responsibility for keeping proper financial records, issuing receipts for money received by the committee, consigning all the committee financial transactions, preparing and presenting financial report to meetings of the committee.

7. Termination of membership of committee

- 7.1. Membership of the committee shall terminate where member resigns on three months notice of the committee
- 7.2. Is absent without apology from the three consecutive meetings of the committee or
- 7.3. Is dismissed from the committee upon a majority vote of the committee for misconduct or incompetence eg. dishonesty not performing the tasks assigned to him or her or not coping with such tasks.

8. Functions of the committee

The general powers and function of the committee shall include the following:

- 8.1. To determine guidelines (by laws) and to agree on rules with the community, subject to the approval of the traditional authority and Regional Council.
- 8.2. To promote awareness of the communities objectives and mobilise the community to actively involve and mobilise the community to actively involve themselves in the management of the forest resources.
- 8.3. To promote co-ordination between the activities of the committee and those of the quarantine camp and other line ministries.
- 8.4. To enforce the rules (By- laws) established by the committee and to reporting illegal activities to members of the executive committee for follow up action with the traditional authority.
- 8.5. To initiate income generating opportunities for the community.
- 8.6. To discuss the needs of the community with relevant authorities and development projects.
- 8.7. To act as community development facilitator for any new developments introduced in the forest reserve.
- 8.8. To educate the community on the importance of sustainable managing grazing areas, forests, wildlife and other natural resources.
- 8.9. To generally manage the forest reserve for the benefit of the community.

- 9.0. Meeting of the committee
- 9.1. Committee meetings shall be held at least once a month.
- 9.2. The secretary shall give notice of committee meetings to all members.
- 9.3. Members shall constitute a quorum in the current situation where only 12 villages are represented. When all the 17 villages have committee members, then 10 members will form a quorum.
- 9.4. Voting shall be by a simple show of hands. Each voter shall be entitled to one vote only. In the event of an equality of votes, the chairperson shall have a second or casting vote.
- 10.0. Financial matters
- 10.1. The treasure shall deposit all community funds with a registered bank, Nampost or building society and two signatories will be required for the Account.
- 10.2. The supervision of all matter shall rest with the committee.
- 10.3. The books of account shall be available for inspection by the community upon request.
- 10.4. All payments shall be approved by the committee before any withdrawal area made.
- 11.0. In order to facilitate the quick resolution of dispute, the committee shall in the first place attempt to resolve dispute and differences by negotiation.
- 11.1. Should dispute still remain to the traditional authority to be heard and settled according to customary law or will refer the dispute to the forest council according to the nature of the dispute.
- 12.0. Dissolution
- 12.1. The committee may be dissolved by a decision of majority of the permanent residents of at least 9 of the 17 villages referred to in clause 1.1.
- 12.2. The committee in consultation and agreement with the community members shall determine the manner of disposal of assets belonging to the committee at the time.

13.0. Amendments

These guide may be amended by the vote of two-thirds of the committee members

Adopted at-----on -----2000

As witness

Chairperson

Secretary

ANNEX 5 : Resource Use Rules/ By-laws

Community By-laws- Sustainable management of indigenous forests. Namibia Country project: Okongo Community Forest

Pre amble

1. We the Okongo community particularly those residing in the 20 Villages described in our forest constitution is concerned with the private ownership and deriving of benefits from our forest in Okongo constituency.
2. The most worrying fact is that rich people from outside coming to fence off large areas of this forest for their own self enrichment depriving us the access to grazing resources and forest products which we so much depend on for our livelihood.
3. In addition, there is an encroachment of this forest by new settlements which is eventually leading to deforestation. Valuable non-timber forest products are diminishing as well as valuable timber and grazing.
4. If we do not take corrective action, our children will have nothing and we ourselves will be plunged into perpetual poverty. Empowered by the New Forest Act No.12 of 2001 and the Traditional leaders Act No.17 of 1995, we would like to combat this behavior by introducing and enforcing the following regulations and by-laws.

Chapter 1: The consent and its regulations

We, the Okongo Community, through our traditional authorities, and Regional Councilor gave consent on the 2nd of May 1996 to the Honorable Minister of Environment and Tourism to have the 750 km² demarcated forest, namely Okongo community forest to be managed as a community agreed forest area.

The following regulations which should be observed in the forest reserve accompanied the consent.

1. No new settlements other than those already established prior to the signing of the consent (02/05/96) would be allowed.
2. No expansion of the mahangu fields would be allowed as this would lead to deforestation.
3. Collection of firewood would be restricted to dead wood only and shall be for own consumption, wood for sale shall have a permit obtained from the Forest Management Committee.
4. Harvesting of trees shall be restricted to trees of less than 45cm diameter and with a permit from the Forest Management Committee.
5. In addition to these regulations accompanying the consent, no fencing of grazing areas other than mahangu field is allowed as this is not in the interest of community forestry because it deprives the majority of access to the forest resources

Chapter 2: Cases and penalties

These cases and penalties were drafted by the FMC on the 6th January 1999 at the settlement called Eloolo. The by-laws were then given to the communities for review, amendment and approval on the 5th September 1999. On 21st December 2001, the By-laws were again reviewed through a community meeting held at Omauni Project Centre.

1. To cut/injure or destroy trees within the agreed forest *without permission* is N\$200.00
2. To be found in possession or carrying forest products and fruits from the agreed forest areas without permit is N\$100.00 and *the products shall be confiscated.*
3. Harvesting of fruits and other timber or Non-Timber Forest Products should be done in an orderly and organized way and in conjunction with the Forest Management Committee and the communities within the agreed forest area. Failure to comply would result into a fine of N\$100.00 and the produce be confiscated.
4. To destroy fruit trees or breaking branches while harvesting N\$100.00.
5. Expansion of existing fields is strictly prohibited failure to comply will attract a fine of N\$200.00 and the extended part will be cut off.
6. To establish or erect a new homestead or field within the agreed Community Forest Reserve is strictly prohibited. A fine of N\$400.00 will be given and the area shall be vacated.
7. A Headman or Sub Headman who sells or allocates a new homestead or field in the agreed Forest Reserve will be guilty of an offence; a fine of N\$500.00 will be given.
8. Starting or carrying fire in the agreed forest area is regarded as highly dangerous. The offender will be fined N\$1200.00 and a court case will be opened for arson.
9. To bring livestock (cattle) into the agreed forest area should be done in collaboration with the Forest Management Committee and community mobilizes. In case of default cattle will be driven out or not allowed entry. Only branded or market cattle with recognized owners shall be allowed to graze in the community forest.
10. Fencing of the grazing area is strictly prohibited such a fence shall be pulled down and the offender shall be fined N\$2000.00 per hectare fenced off or part of.

Approved by _____
Hon. Philemon Malima
Minister of Environment & Tourism

ANNEX 6 : MoU between Quarantine and FMC

Memorandum of understanding between the Ministry of Agriculture, Water and Rural Development, Directorate of Veterinary Services, Okongo Quarantine and the Ministry of Environment and Tourism, Directorate of Forestry, Okongo Forest Management Committee.

Objective

This memorandum is aimed at allowing limited access for surrounding community members to harvest some prescribed forest resources for their livelihood and to ensure that the forest resources are not destroyed through bad land use practices such as overgrazing and fire.

1. The parties mentioned here in, agree to abide by the following regulations and procedures for the benefit of the Okongo Community and for sustaining the forest resources in the quarantine area.
2. The Directorate of veterinary services is the sole custodian of the quarantine area and have the exclusive right to override any decision or activity that may interfere with the stipulated regulations of the quarantine.
3. The quarantine is considered to be within the boundaries of the Okongo Community Forest as indicated in the community consent signed by the community members and regional council representatives on 2nd May 1996 and is seen by the community (beneficiaries) as complimentary activity aimed at improving their livelihood.
4. In case of veld fire in the Quarantine demarcated area, the Quarantine staff will take a lead in quenching such a fire and the Okongo forest management committee will assist with immediate response when notified to fight such a fire.
5. The harvesting of Non timber forest products such as indigenous fruits namely Omauni (*Strychnose species*) Omangete (*Schiziphyton rautanen*), Eeshe (*Grewia species*) and others within the quarantine area shall be done unless for home consumption with a written permit from the Okongo Forest management committee which will be issued with a prescribe fee before harvesting of such produce. The Quarantine master shall be notified in advance by the forest management committee before such a harvest is done.
6. The San Community members with written authority from the Okongo Forest management committee shall have access into the Quarantine farm to harvest fruits for consumption. Prior notice shall be give to the quarantine authority for harvesting of such fruits.
7. The harvesting of timber (*Pterocarpus angolensis*) (Omuve) and (*Baikiaea plurijuga* (Omupapa) shall be limited to dead wood with written permission from both the Okongo management committee and the Quarantine authority.
8. Issues pertaining to grazing of livestock within the Quarantine area shall be controlled and monitored by the Quarantine authority. However if overgrazing is observed to be a threat to natural forest regeneration, the Okongo Community Forest project may advise the Quarantine staff to take steps in controlling such overgrazing to avoid land degradation and loss of bio-diversity.
9. The Okongo Community forest project may carry out forest inventories and other resource assessments within the quarantine area for the purpose of resource monitoring and utilisation of the forest resources within the Quarantine area.

10. No hunting of game or collection of species both fauna and flora shall be done, unless for scientific studies and with written authorization from the Quarantine Authority and endorsed by the Ministry of Environment and Tourism.
11. No provisions in this memorandum can be changed without written consent from parties mentioned in this memorandum.

Signatories

i. Directorate of Veterinary services
North Central Region

ii. Regional Chief Forester
North West Forest Region

iii. Senior Headman
Okongo community

iv. Chairperson
Okongo Forest Management committee

ANNEX 7 : Agreed Roles and Responsibilities

The Management Authority is Okongo Forest management committee with the executive body operating from the project community center located at Omauni.

The committee is appointed from each of the 20 villages stated in section I. their functions are described in the constitution of the forest management committee.

The committee is empowered by the Forest Act No12 of 2001 section15 (2) and by the Traditional Authority Act No17 of 1995 section 10.

The committee has an executive body consisting of 8 members, chairperson and the vice, secretary and the vice secretary, treasure and the vice treasurer, a representative of the women in the area and a representative of the San community.

According to the constitution of the committee, the following are the main functions:

- To determine guidelines (by laws) and to agree on rules with the community, subject to the approval of the traditional authority and Regional Council.
- To promote awareness of the communities objectives and mobilize the community to actively involve themselves in the management of the forest resources.
- To promote co- ordination between the activities of the committee and those of the quarantine camp and other line ministries.
- To enforce the community by laws and to report illegal activities to members of the executive committee for follow up action with the traditional authority.
- To initiate income generating opportunities for the community.
- To discuss the needs of the community with relevant authorities and development projects.
- To act as community development facilitator for any new developments introduced in the forest reserve.
- To educate the community on the importance of sustainable managing grazing areas, forests, wildlife and other natural resources.
- To generally manage the forest reserve for the benefit of the community.
- To monitor the changes in resource use and availability.

PROJECT STAFF/ PROJECT MANAGER

As far as the project funding from the German Government will be available up to September 2006, the project staff will be responsible for implementing certain activities such as:

- Providing extension services in the implementation of the FMP
- Assisting in Monitoring and Evaluation of the Plan
- Provision of initial inputs for Implementation of activities
- Capacity building for the FMC in handling the FMP independently
- Development of a benefit sharing system for all stakeholders

TRADITIONAL AUTHORITIES

Traditional authorities are still the custodian of land and customary laws and hence there are responsible for the following aspects.

- Community mobilization for acceptance of the FMP
- Supporting Law enforcement and prosecution of offenders (By Laws)
- Assisting in Monitoring and Evaluation of the Plan

GOVERNMENT FOREST SERVICE

CBNRM is part of the land policies of the Namibian Government, thus the Directorate of Forestry is supporting these policies.

Their roles and responsibilities in the FMP will be as follows:

- Providing policy guidelines in implementing the plan
- Empowerment of the community through gazettelement of the OCF
- Technical assistance through their staff
- Dissemination of experiences to other areas of Namibia or other SADC countries
- Assurance that the project and the FMP is fully handed over to the community after the end of the donor funding

ANNEX 8 : Analysis of Benefits for Stakeholders

Stakeholder	Benefits
FMC	Commitment without payment <ul style="list-style-type: none"> - payment of fees for forest patrols - paying of “costs” for their work - representative status of the members - possibility of information exchange with similar institutions - access to “ first Hand “ information - gaining of management skills and technical knowledge
Traditional Authorities	<ul style="list-style-type: none"> - Loyalty fees on harvesting permits - No bypassing of their influences and decisions - Involvement and benefits from IGA’s and from other activities - Equal access to community funds
Community Members	<ul style="list-style-type: none"> - socio- economic upliftment - Involvement and benefits from IGA’s and from other activities - Improvement of social structures - Easier channeling of problems towards the responsible institutions - “ Burning “ Problems are addressed - Improvement of Marketing Possibilities - Equal access to community funds - Communal ownership and access to resources for all - Possibility of independent decisions (empowerment) - Prevention of forest degradation and therefore sustain the production of NTFP and agricultural produce
Project Staff	<ul style="list-style-type: none"> - Employment (Salaries) as long as there are funds available - Gaining of experience in CBNRM, technical knowledge and references - Management skills - Possibility of further employment
Government Forest Service	<ul style="list-style-type: none"> - good reputation and image - Fulfilment of mission statements - Capacity building - Improvement of infrastructure (Offices, Transport) - Prevention of forest degradation
Line Ministries	<ul style="list-style-type: none"> - easier dissemination of information and distribution of inputs - access to training/ facilities in the project building - close co-operation between different stakeholders

ANNEX 9 : Inventory Data & Total annual Cut

Table 1: Sustained yield for *Pterocarpus angolensis*

DBH Class (cm)	Total stems per hectare	Total stems per hectare after 10 years	Total trees in whole area	Total annual cut over 10 years
15-25	5	6	32432	3243
25-35	2	3	59273	5927
			Total	9170

Table 2: Sustained yield for *Biakiaea plurijuga*

DBH class (cm)	Total stems per hectare	Total stems per hectare after 10 years	Total trees in whole area	Total annual cut over 10 years
5-15	20	22	116309	11630
15-25	19	20	55918	5592
25-35	9	15	342218	34222
35-45	1.4	8	374651	37465
			Total	88909

Table 3: Sustained yield for *Burkea africana*

DBH class (cm)	Total stems per hectare	Total stems per hectare after 10 years	Total trees in whole area	Total annual cut over 10 years
15-25	8	8	8947	895
25-35	2	4	129729	12973
35-45	2	4	89469	8947
			Total	12815

Table 4: Sustained yield for *Combretum collinum*

DBH class (cm)	Total stems per hectare	Total stems per hectare after 10 years	Total trees in whole area	Total annual cut over 10 years
5-15	17	39	1214539	121454
15-25	3	19	870084	87008
25-35	0.05	16	905089	90509
			Total	208462

Table 5: Sustained yield for *Terminalia sericea*

DBH class (cm)	Total stems per hectare	Total stems per hectare after 10 years	Total trees in whole area	Total annual cut over 10 years
5-15	17	40	1268220	126822
15-25	3	19	896925	89693
25-35	0.05	17	935284	93528
			Total	310043

ANNEX 10: Diameter distribution

Table 7: Diameter distribution of live stems by species (1000 stems)

Species	5-15 cm	15-25 cm	25-35 cm	35-45 cm	45-55 cm	55-65 cm	65-85 cm	85-125 cm	Total	% of total
<i>Acacia erioloba</i>	13.3	13.3		2.8	2.3				31.6	0.3
<i>Baikiaea plurijuga</i>	1091.6	1080.7	510.4	78.5	24.0	2.7	2.3		2790.2	23.8
<i>Boscia albitrunca</i>	13.3								13.3	0.1
<i>Burkea africana</i>	641.3	471.5	87.1	16.3		1.5			1217.7	10.4
<i>Combretum collinum</i>	960.5	151.5	20.9		2.3				1135.2	9.7
<i>Combretum engleri</i>	22.4								22.4	0.2
<i>Combretum psidioides</i>	317.9	31.5		2.8					352.2	3.0
<i>Combretum zeyheri</i>	287.1	16.3							303.3	2.6
<i>Commiphora angolensis</i>	217.6	57.2	7.9						282.7	2.4
<i>Croton gratissimus</i>	74.3								74.3	0.6
<i>Dichrostachys cinerea (Africana)</i>	61.1	5.1		5.1					71.3	0.6
<i>Dichrostachys cinerea (Setulosa)</i>	33.7	13.3							46.9	0.4
<i>Diplorhynchus condylocarpon</i>	33.7								33.7	0.3
<i>Erythrophleum africanum</i>	359.5	68.9	30.1	2.8					461.4	3.9
<i>Guibourtia coleosperma</i>	87.4	79.4	47.4	21.9	5.0	1.2		1.2	243.7	2.1
<i>Lonchocarpus nelsii</i>	378.1	132.4	37.7	2.8					551.0	4.7
<i>Ochna cinnebarina</i>	13.3								13.3	0.1
<i>Ochna pulchra</i>	227.6	18.4							245.9	
<i>Ozoroa longipes</i>	81.4								81.4	0.7
<i>Ozoroa paniculosa</i>	93.0								93.0	0.8
<i>Ozoroa schinzii</i>	140.0								140.0	1.2
<i>Pavetta zeyheri</i>			5.6	2.8		1.2		1.2	10.9	0.1
<i>Peltophorum africanum</i>	11.2	7.9	18.1		2.3				39.5	0.3
<i>Schinziophyton rautanenii</i>	237.2	101.6	36.7	24.4	19.2	9.8	15.2	18.7	462.7	3.9
<i>Pterocarpus angolensis</i>	914.6	482.1	266.1	92.5	12.9	4.2	1.5		1773.9	15.1
<i>Securidaca longepedunculata</i>	20.4								20.4	0.2
<i>Strychnos cocculoides</i>	40.7	20.4	20.4						81.4	0.7
<i>Strychnos pungens</i>	26.6	11.2							37.8	0.3
<i>Terminalia sericea</i>	952.4	145.4	3.3						1101.1	9.4
Total	7350.9	2908.1	1091.7	252.7	67.8	20.7	19.0	21.2	11732.1	
% of total	62.7	24.8	9.3	2.2	0.6	0.2	0.2	0.2		100

Table 8:

Diameter distribution of dead stems by species (1000 stems)

Species	5-15 cm	15-25 cm	25-35 cm	35-45 cm	45-55 cm	55-65 cm	65-85 cm	85-125 cm	Total	% of total
<i>Baikiaea plurijuga</i>	168.2	176.1	57.8	20.1	2.5	5.0			429.6	29.2
<i>Burkea africana</i>	188.9	51.6	20.9						261.5	17.8
<i>Combretum collinum</i>	150.9	56.9							207.8	14.1
<i>Combretum psidioides</i>	13.3								13.3	0.9
<i>Combretum zeyheri</i>	20.4								20.4	1.4
<i>Commiphora angolensis</i>	20.4								20.4	1.4
<i>Dichrostachys cinerea (Africana)</i>	40.7	20.4		5.1					66.2	4.5
<i>Dichrostachys cinerea (Setulosa)</i>		13.3							13.3	0.9
<i>Erythrophleum africanum</i>	129.4	39.8	5.1						174.3	11.9
<i>Guibourtia coleosperma</i>	26.6	1.5	3.3	11.2			1.5	2.3	49.9	3.4
<i>Lonchocarpus nelsii</i>				5.1					5.1	0.3
<i>Ochma pulchra</i>	31.5								31.5	2.1
<i>Ozoroa paniculosa</i>	13.3								13.3	0.9
<i>Peltophorum africanum</i>		2.8	5.1						7.9	0.5
<i>Schinziophyton rautanenii</i>						2.3			2.3	0.2
<i>Pterocarpus angolensis</i>	11.2	15.1		6.1					32.4	2.2
<i>Terminalia sericea</i>	105.3	16.1							121.4	8.3
Total	920.0	397.1	92.2	47.6	2.5	7.2	1.5	2.3	1470	
% of total	62.6	27.0	6.3	3.2	0.2	0.5	0.1	0.2		100