FOREST MANAGEMENT PLAN FOR ONGHALULU FARMERS' COOPERATIVE

Cooperative and Site Information

Cooperative Name: Onghalulu Farmers' Cooperative

Contact Number: +264 81 4058186/ +264 81 6564948/ +264 81 4272263

Cooperative Address: Onghalulu, Okongo West, Ohangwena Region.

Plan Date: 20/12/2019

Plan Acceptance

Cooperative Signature: ……. Date: ……

Plan Writer's Signature: ……. Date: ……

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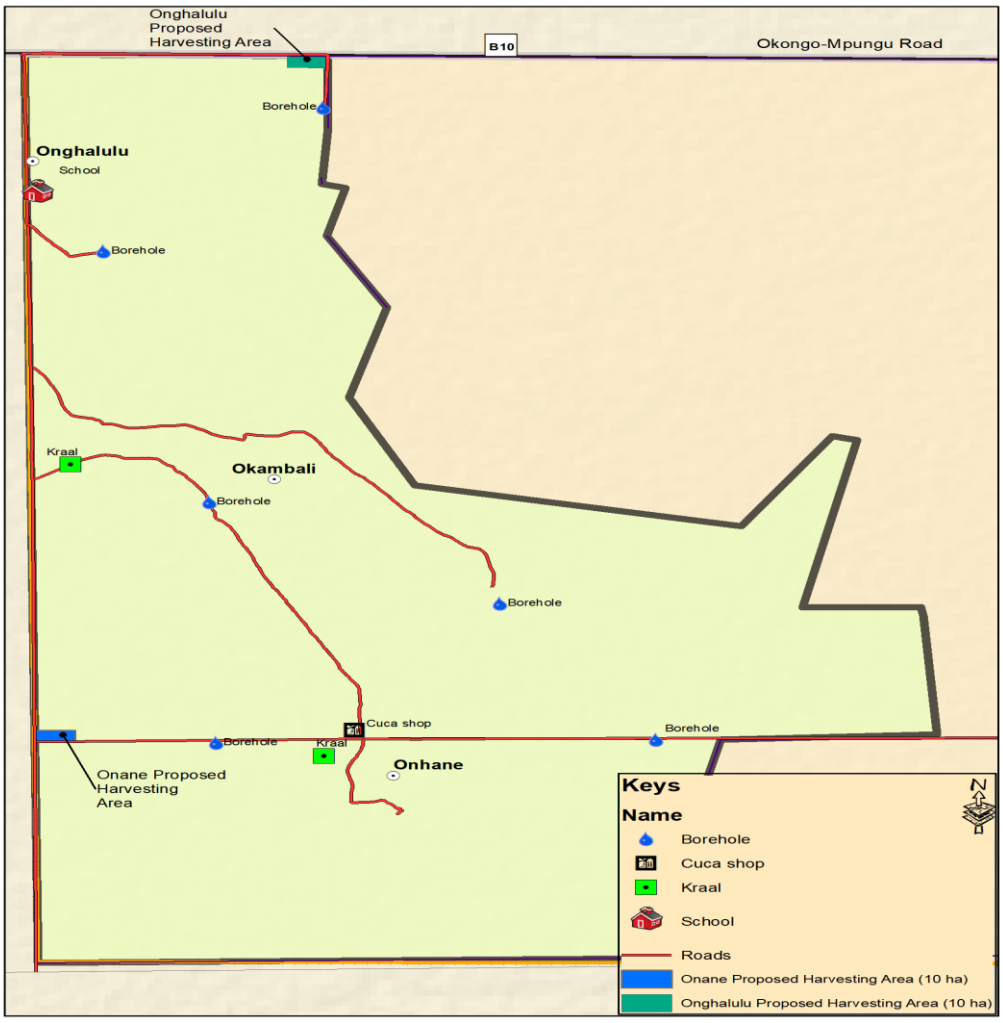
1. Onghalulu Farmers' Cooperative:

Onghalulu Farmers' Co-operative is located in Okongo West, in the Ohangwena Region of Namibia (Figure 1). It was founded in October 2014, as an outcome of the Local Level Participatory Planning component of the Programme for Communal Land Development (PCLD) of the Ministry of Land Reform. Its membership is drawn from Onghalulu, Okambali and Onane villages which represents 120 potential beneficiary farmers. The Co-operative operates according to a set of By-Laws and Internal Rules, adopted in 2014.

The main agricultural activity of Co-operative members is livestock farming, predominantly cattle, donkeys, chickens and goats to a lesser extent. The grazing area of the Co-operative covers an area of about 10,487 hectares, most of which is considered bush encroached, resulting in over-grazing and the depletion of rangeland resources.

In order to improve pastures and to increase the carrying capacity of the grazing area, the Onghalulu Farmers' Co-operative members have decided to engage in a systematic and sustainable bush-thinning exercise. While bush encroachment is a major challenge, it does offer business opportunities, which if properly carried out bear the potential to generate reasonable income for the Co-operative and simultaneously create employment and livelihood opportunities for unemployed youth in the area. The biomass to be harvested will be utilised into various woody value chains (droppers, poles, firewood, Bush-based animals' feed and charcoal).

2. Map of the Cooperative:



3. Objectives of the Co-operative:

The Cooperative primary purpose is to provide services and support to its members, who are both the beneficiaries and the shareholders of the business. The focus is thus not so much on maximizing profits, but rather on maximizing member benefits, through the provision of inputs and services, and collective marketing of products.

4. The vision of the Co-operative:

“To make the Onghalulu Farmers’ Co-operative a model co-operative, by becoming (1) self-sufficient, and (2) becoming an educated community growing to its full potential”.

5. General site description

Onghalulu Farmers' Co-operative receives rainfall ranging from 500-550 mm. There is generally a long dry season from April to October and a shorter, wet season between November and March. The average annual temperature is 34^{oC}, and at an altitude of approximately 1000m. Frost occurs annually mainly between June and August, and can be severe, especially to exotic tree species.

The soil ranges from sandy loam to loam clay, but most of the area has deep Kalahari Sand. The loamy areas (known as ekoves, ondobe or ekango) tend to be more fertile, and therefore where the communities settle and practise limited dryland cropping. The deep sand areas are unfertile and cannot be cultivated.

6. Harvesting strategies

The Board members and the Cooperative members have identified and demarcated 10 hectares areas from each village to harvest in 2020. The 120 beneficiaries are drawn from the three villages, and this are registered and paid up members. The harvesting (bush thinning) of woody biomass will only be done by those who are interested in biomass utilisation. It is important to note that non-members of the cooperative are not allowed to practice bush thinning within the polygon. Once they are done harvesting from the demarcated areas they will reseed and rest the areas for at least 2 years and move to new areas which will be 10ha/annum. Two representatives from each value chain will serve in biomass subcommittees in each village. The main functions of these sub-committees are to plan the harvesting activities, implement, document and ensure that the harvesting is done in a sustainable manner in accordance to Forest Acts and Regulations.

7. Total Allowable Cut

Allowable cut is a guide used to regulate timber and/or pole harvests in both plantation and natural forests (Vanclay, 2014). The concept is long-established, but it remains loosely defined as *"the volume, number of stems, or area cut over, either annually or*

periodically" (Robertson, 1971). Allowable cut focused on poles, droppers, timber and firewood.

7.1 Poles

Poles refer to woody plants (except for timber species) with dbh from 25 cm and greater.

Table 1: Poles total allowable Cut

SPECIES	COUNT	TOTAL AREA (HA)	ROTATION PERIOD	TAC	TAC/YR
Terminalia sericea	85	10487	36	24761	4952
Combretum collinum	72	10487	43	17560	3512
Combretum apiculatum	42	10487	43	10243	2049
Dichrostachys cinerea	24	10487	36	6991	1398
Philenoptera nelsii	12	10487	43	2927	585
Combretum zeyheri	6	10487	43	1463	293
Schinziophyton rautanenii	4	10487	43	976	195
Croton gratissimus	3	10487	54	583	117
Acacia erioloba	2	10487	100	210	42
Strychnos pungens	2	10487	43	488	98
Boscia albitrunca	1	10487	36	291	58
TOTAL	**253**			**66492**	**13298**

Farmers are allowed to harvest a minimal amount form all the observed tree species as indicated on the table above. The highest allowable cut per year was displayed by *Terminalia sericea* (4952 stems), followed by *Combretum collinum* (3512 stems) and *Combretum apiculatum* (2049 stems). The lowest allowable cut was identified in species such as *Strychnos pungens* (98 stems) and *Acacia erioloba* (42 stems).

7.2 Droppers

Table 2: Droppers total allowable cut

SPECIES	COUNT	TOTAL AREA (HA)	ROTATION AGE	TAC	TAC/YR
Terminalia sericea	47	10487	18	27965	5593
Combretum apiculatum	22	10487	23	10031	2006
Dichrostachys cinerea	6	10487	18	3496	699
Combretum collinum	6	10487	23	2736	547
Berchemia discolor	4	10487	18	2330	466
Acacia erioloba	1	10487	50	210	42
TOTAL	**88**			**46768**	**9354**

The highest total allowable cut was demonstrated by *Terminalia sericea* (5593 stems), followed by *Combretum apiculatum* (2006 stems) and the least was *Acacia erioloba* (42 stems).

7.3 Timber

Table 3 shows the total allowable cut for timber in the area according to the inventory results.

Table 3: Timber total allowable cut

SPECIES	COUNT	TOTAL AREA (HA)	ROTATION PERIOD	TAC	TAC/YR
Burkea africana	45	10487	130	3630	726
Baikiea plurijuga	6	10487	142	443	89
TOTAL	**51**			**4073**	**815**

Timber is in a relatively low abundance in the area. Therefore, the results indicate that is relatively small amount of timber that can be harvested per species. The total allowable cut for timber in Onghalulu Farmers' Co-operative was observed in *Burkea africana* (726 stems) and *Baikiaea plurijuga* (89 stems).

7.4 Dead wood/firewood

Table 4: Dead wood total allowable cut

SPECIES	COUNT	TOTAL AREA (HA)	FACTOR (20%)	TAC	TAC/YR
Terminalia sericea	10	10487	20	5244	1049
Dichrostachys cinerea	4	10487	20	2097	419
Combretum collinum	3	10487	20	1573	315
Boscia albitrunca	1	10487	20	524	105
Combretum apiculatum	1	10487	20	524	105
Schinziophyton rautanenii	1	10487	20	524	105
TOTAL	**20**	**10487**	**20**	**10487**	**2097**

Deadwood is commonly used for firewood. Dead wood for firewood was recorded from five species, namely, *Terminalia sericea, Combretum collinum, Dichrostachys cinerea, Combretum collinum, Boscia albitrunca, Combretum apiculatum* and *Schinziophyton rautanenii*. The highest allowable cut was observed in *Terminalia sericea* (1049 stems), *Dichrostachys cinerea* (419 stems), *and Combretum collinum* (315 stems). The lowest total allowable cut was observed in species such as *Boscia albitrunca*, *Combretum apiculatum* and *Schinziophyton rautanenii* all recorded 105 stems.

8. Management Structure

Onghalulu Farmers' Cooperative is managed/being ran by the board members and supervisory committee. The cooperative is comprising of 22 members sharing different responsibilities; Chairperson (1), vice chairperson (1), Secretary (1), Vice-secretary (1), Treasurer (1), Vice-Treasurer (1), Additional members (4), Supervisory committee (9) and focal persons (2) from each village.