

**THE IMPACTS OF COLLABORATIVE FOREST MANAGEMENT ON THE  
LIVELIHOODS OF FOREST ADJACENT COMMUNITIES, OF ECHUYA  
CENTRAL FOREST RESERVE, KABALE-KISORO, UGANDA.**

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## DECLARATION A

I BARAHUKWA ANKE hereby declare that this work entitled “Impacts of collaborative forest management on the livelihoods of forest adjacent communities of Echuya Central Forest Reserve in Kabale-Kisoro, Uganda” is my original research work and that it has never been submitted in any institution for any award. Wherever contributions of others are involved, every effort is made to indicate this clearly with due reference to the literature and acknowledgment of collaborative research and discussions.

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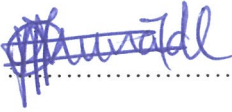
## DECLARATION B

This dissertation was written under my supervision and is ready for submission for examination.

SUPERVISOR:

Mr. OMUNA DANIEL

Signature:



Date

11/08/2015

## **DEDICATION**

This work is dedicated to my mum Mrs. Mbabazi Harriet Musigunzi and Mr.Omuna Daniel.

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I thank the Almighty God who has enabled me to complete this research through availing me the great people who have helped me from time to time with the research.

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## LIST OF ACRONYMS

CBFM:	Community Based Forest Management
CBOs:	Community Based Organisations
CFM:	Collaborative Forest Management
CFR:	Central Forest Reserve
ECFR:	Echuya Central Forest Reserve
FSSD:	Forest Sector Support Department
IBA:	Important Bird Area
JFM:	Joint Forest Management
KBA:	Key Biodiversity Area
NFA:	National Forest Authority
NGO:	Non -Governmental Organisation
NTFPs:	Non Timber Forest Products
PEAs:	Parish Extension Assistants
PFM:	Participatory Forest Management
RB:	Responsible Body
CFSA:	Communal Forest Stewardship Agreements
TFAP:	Tropical Forest Action Plan
TPTI:	Tebang Pilih Tanam Indonesia or Indonesian Selective Cutting and Planting

## **ABSTRACT**

The study of the impacts of collaborative forest management on the livelihoods of forest adjacent communities was conducted in the nine parishes surrounding Echuya Central Forest Reserve located in the districts of kabale & Kisoro in Uganda with the objective of finding out the activities of Collaborative Forest Management, benefits to the Forest Adjacent Communities, the challenges faced in implementation and to establish strategies to cop up with the challenges of Collaborative Forest Management. The response was sourced from 100 key informants who were selected through simple random sampling and purposive non random sampling techniques. Questionnaires and interview guides were used to collect the primary data from the respondents. The study observed that formation of Collaborative Forest Management groups and community tree planting were the major activities being carried out and the other prominent activities included forest rehabilitation, community capacity building trainings, joint forest protection, regulated harvest of forest resources and promotion of agroforestry. The major benefits of Collaborative Forest Management included biodiversity conservation, domestication of forest resources on farmlands, decline in illegal forest encroachment, livelihood improvement and increased social responsibility. Among the challenges facing the implementation of were Collaborative Forest Management conflict of interest among the stakeholders, insufficient funding for Collaborative Forest Management activities, lack of an equitable mechanism for benefit sharing, cross border illegalities and continued encroachment, and lack of a forest management plan and the established strategies included the need to develop an equitable benefit sharing mechanism, raising long-term funding for Collaborative Forest Management activities, resolving conflicts amongst the stakeholders, dialoging to solve cross border issues and developing a forest management plan. In general Collaborative Forest Management is an efficient and effective approach to attaining sustainable management of Echuya Central Forest Reserve if all the emerging challenges are to be dealt with.

## **CHAPTER ONE INTRODUCTION**

### **1.0.Introduction**

This chapter includes the background to the study, statement of the problem, objective of the study, research questions, the scope, limitations and definition of key terms.

### **1.1. Background to the study**

Since the mid-1980s devolution and decentralization of natural resource management has become a policy tool for many developing countries across the globe. Countries have devolved and decentralized their resource use and management system to the users. The apparent change in policy from the state-managed top down approach to the community level is fueled by the recognition of the limits of government agencies in managing resources at the local level, which has resulted in massive degradation of natural resources and of local people's livelihood systems. A consensus has emerged among academicians, policy makers and national and international donor agencies and NGOs that local communities should be involved in managing their resources. In fact, a large body of case studies has demonstrated that local user groups can devise institutions to manage resources sustainably (Baland and Platteau, 1996; Ostrom, 1990 and Bromley, 1992).

In the world today nearly every country is currently experimenting with some form of community resource management by devolving some of their power to the community to use and manage the resources.

As per the forestry sector, most African and Asian countries as well as international development organisations have been promoting participatory approaches and many national governments have developed, or are in the process of crafting policies to institutionalize Participatory Forest Management (PFM).

PFM is widely favoured within international policy arena possibly because the approaches generally draw idealist and arguably romanticised ideas of "community" but also significantly connects with a dominating paradigm in the development arena where a need for community participation in processes concerning local development is emphasized as a central tool in community development. PFM comprises of a variety of arrangements for co-management. The extent to which local stakeholders control PFM processes and outcomes (allocation of benefits

and costs) ranges from relatively conservative “benefit sharing” to genuine “community-based natural resource management” where locals are in full control. The various PFM approaches in practice include Community Based Forest Management (CBFM), Joint Forest Management (JFM) and Collaborative Forest Management (CFM); all of which advocate that rights and responsibilities to manage forest resources be devolved to local communities settled in proximity.

In Uganda, CFM is the most popular form of PFM and it is defined as structured partnerships between key stakeholders such as government departments, interested organisations and community groups in the management of local forest resources (Carter, 1999). CFM is provided for in the Forestry Policy of 2001 and Forestry and Tree Planting Act of 2003 of Uganda as an instrument that can address disincentives of a protectionist approach to managing forests and the destructive outcomes of open access. CFM offers local people incentives to conserve forest resources and may thus result into socio-economic, infrastructural, ecological, institutional, and policy impacts to the forestry sector and local communities.

Echuya Forest where the study will be conducted was gazzeted a forest reserve in the 1930’s and is currently managed by NFA as a national resource (Central Forest Reserve). Echuya CFR is one of Uganda’s CFRs where collaborative forest management is being implemented. CFM activities at Echuya CFR involve negotiated access and use of certain forests resources by communities from forest adjacent communities on agreed terms and conditions.

The study to be conducted in Echuya CFR will therefore investigate the impacts resulting from the implementation of CFM peoples’ livelihoods in adjacent communities.

## **1.2. Problem Statement**

There are stakeholders with different priorities and perceptions about sustainable forest management. Some people have direct dependency on forests, others are interested in conservation of the biodiversity richness in the area; businesses aim to maximize profits from the extraction of forest products; whereas the government also hopes to increase tax revenues and employment level. The divergent interests by the various stakeholders calls for need of good decision making that incorporates all stakeholders’ interests as the failure to reconcile all the legitimate interests

may lead to conflicts and may harm the resource and the long-term responsible resource management. In the absence of CFM, there are challenges of lack of the sense of ownership amongst community members, lack of information and weak negotiation capacity amongst stakeholders which often lead to an agreement which only benefits a selected group of community members or reflects short term incentives rather than long-term communal benefits. However, the actual benefits accruing to local communities under the CFM agreement are largely unknown. Little is also known regarding the impact of CFM on the livelihoods of people and also the forest status yet this information is essential for strengthening both the CFM policy development and implementation in Uganda. Therefore the research to be conducted seeks to further investigate if the implementation of the Collaborative Forest Management by the different stakeholders of Echuya Central Forest Reserve has brought fourth realistic benefits to all the stakeholders and also to examine if the approach is an efficient one in ensuring sustainable forest management basing on the forest status.

### **1.3. Objectives of the study**

#### **1.3.1. General objective**

To investigate the efficiency and effectiveness of Collaborative Forest Management approach basing on the impacts on the ecological, economic and social attributes of the forest adjacent communities.

#### **1.3.2. Specific objective**

- i. To find out the activities carried out in the implementation of Collaborative Forest Management.
- ii. To find out the benefits of Collaborative Forest Management to the Forest Adjacent Communities
- iii. To identify the challenges that hinder Collaborative Forest Management implementation in Echuya central Forest reserve
- iv. To establish strategies to cop up with the challenges of Collaborative Forest Management.

#### **1.4. Research Questions**

- i. What activities are being carried out in the implementation of Collaborative Forest Management?
- ii. Has the approach been able to deliver benefits to the community members?
- iii. Are there challenges hindering the implementation Collaborative Forest Management?
- iv. Are there strategies in place to cop up with the challenges?

#### **1.5. Significance of the Study**

- i. The new findings generated will advocate for the involvement of local people in arrangements for Collaborative Forest Management through enabling/highlighting the community members realize benefits.
- ii. New ideas and strategies will be established to combat the emerging challenges in the implementation of CFM at Echuya CFR so as to ensure sustainability of the forest resources.

#### **1.6. Scope of the study**

##### **1.6.1 Geographical scope**

The research was conducted at Echuya Central forest reserve in the nine parishes of Chibumba, Kagezi, Kashasha, Kacerere, Ikamiro, Karengyere, Muhindura, Kishanje and Kagunga situated in Bafumbira and Rubanda counties of Kisoro and Kabale districts.

##### **1.6.2 Content scope**

The research study obtained information on CFM activities; its benefits to the forest adjacent communities; the challenges hindering its implementation and the strategies in place to cope with the challenges.

##### **1.6.3 Time scope**

The study was conducted for a period of one month starting from May 2015 to the July 2015.

#### **1.7. Definition of key terms**

A **Central Forest Reserve** is a body of forest or woodland managed by the National Forestry Authority (NFA) under the National Forestry and Tree Planting Act 8/2003.



**A community** is a group of people living in the same place or having a particular characteristic in common.

**A forest** is a highly complex eco-system with a constantly changing environment made up of a variety of living things (wildlife, trees, shrubs, wildflowers, ferns, mosses, lichens, fungi and microscopic soil organisms) and non-living things (water, nutrients, rocks, sunlight and air). Trees are the biggest part of this complex community.

**Collaborative Forest Management** refers to a structured collaboration between governments, interested organisations and community groups, and other stakeholders to achieve sustainable forest use.

**Forest Adjacent communities** are the different groups of people living around the forest.

**Forest reserve** is an area set aside and preserved by the government as a wilderness, national park, or the like which enjoy judicial and/constitutional protection under legal systems of many countries.

**Participatory Forest Management** is a forest management strategy that encompasses processes and mechanisms that enable people who have a direct stake in forest resources to be part of decision-making in all aspects of forest management, from managing resources to formulating and implementing institutional frameworks.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter includes details of literature review on CFM programmes, benefits, challenges and strategies.

#### **2.1: The activities under collaborative forest management**

##### **Integrated forest management planning process**

Collaborative management of forest resources can be an effective strategy for sustainable forest and rural development. For the strategy to succeed, communities must be partners with forest agencies, other forest users and stakeholders in the management of forest resources. For the partnership to be successful, communities must have security of long-term rights to the forest so that they are assured that they will receive the benefits from the protection and improvement of the forest resources. This link between benefits and sustainable development appears to be a strong one, with improvements due to shared forest management seen “in the quantity, quality, variety and security of forest” (ODA 1996)

In order to meet the policy demand for CFM, an integrated forest management process is being used to develop management plans for forest reserves in Uganda. The purpose of adopting such a process is to ensure that local communities participate in the planning and decision making process in forest management. Basically the process involves about 10 steps namely: formation of reserve planning team; inauguration and training of reserve planning team; resource assessment and inventories; socio-economic surveys; information gathering from maps, old plans, reserve settlement agreements, logging history, etc; preparation of draft management plans; reserve planning workshop; review of draft management plan, and; submission of final plan.

##### **Promotion of private and community forests**

In accordance with the 2001 Uganda Forest policy, the government through the Forest Sector Support Department (FSSD) is encouraging the establishment of plantations and dedicated forests as a means of enriching the off reserve timber resources.

### **Community forest committees**

Equity is also a distant goal, but at least CFM approaches should not entrench or promote inequitably power structures or become a mechanism of excluding certain interest groups. It is important that all these issues to be considered early in the participatory process to establish who the actors are, what their interests and roles in collaboration are, and how they can be engaged (Ingles et al. 1999). Thus, Community Forest Committees are formed to: permanently represent the forest fringe communities on forest management issues at the national level and to improve upon the knowledge and capacity for collaboration at the local level; enhance and encourage widespread participation in forestry matter especially those that will affect the communities; mobilize wide stakeholder awareness and participation in the forest management planning process; educate and assist in the development of social responsibility agreements; and monitor the implementation of the social responsibility agreements. Specifically, participating communities will play important roles and responsibilities at the national, regional, district and local levels. At the national, regional and district levels the partners will: participate in forest policy review and formulation; prepare proposals to promote the welfare of communities through forest resources management; and make general recommendations on forestry that will lead in to improving forest management.

### **Improving communities' livelihoods.**

This activity is majorly facilitated by the government body, community based organisation or any other conservation body with the interest of conserving the forest and achievements can be attained through conducting trainings on creation of self-help projects such as sustainable organic agriculture, vegetable growing, in the FACs and among others. Also the distribution of good quality breeds of crop seeds and animals can boost the agricultural sector.

Linked to this is a growing appreciation that sustainable resource management can go hand in hand with poverty alleviation (Jodha 1986, 1992; Kumar et al. 2000; World Bank 2001) and that the effectiveness of government as a resource manager is improved when it shares powers with different user groups; (Kherof 2000) represents another thought which, argues that people who live on the land are very much in tune with their environment and that it only requires the legal and institutional framework to be adjusted in their favour so that they take responsibility for the resources, on which they rely to secure their livelihood

### **Forest rehabilitation**

The taungya system has been the main way in which communities were traditionally involved in forest management. A review of the past taungya system was done and this helped to inform the development of pilot programs. The review also helped the FSSD to develop new strategies and systems for forest rehabilitation called “the modified taungya system. In 2001 the government of Uganda launched plantation activities as one of its poverty reduction strategies. In the modified taungya and plantation development programme, CFM and forest fringe communities are expected to: assist in the identification of degraded portions of the forest for rehabilitation; establish nurseries from which the FSSD will obtain seedlings for forest rehabilitation; undertake forest rehabilitation activities such as tree planting, transplanting, tree tending operations; and encourage and assist communities to plant trees on their farms which in the end reduces on the pressure that arises from direct dependency on forests. For “Elrawashda” forest reserve, Osman (2000) reported that the artificial regeneration inside the forest reserve based on participatory approach succeeded in positive stocking densities due to protection provided by the local people

### **Forest fires protection**

Over the past decade most forest reserves and off reserves in Uganda have been experiencing annual forest fires. The communities are therefore expected to help in preventing and fighting forest fires in their community. This is done through: planting green fire belts along the forest boundary; education of local communities on the dangers of fire and fire management especially during the dry seasons; formation of fire volunteer squads; and development and enforcement of by-laws to protect fire and sanctioning forest offenders. In addition to this collaboration, participating communities can suggest measures to conserve forest resources in their locality. They will also be responsible for encouraging and supporting the arrest and reporting of offenders to the FSSD, NFA and/or the police. In line with their protective functions, participating communities under CFM are encouraged to check the permits of people they suspect to be engaging in illegal operations.

### **Boundary cleaning and patrolling**

The boundaries of the forest reserve are cleaned to ensure that farms are not extended to the reserves. In addition, it ensures that wildlife in the forest do not enter into the farms of those who share a common boundary with the forest reserve. Most often, NFA use the forest guards to

patrol and clean the forest boundary at regular intervals. Currently local communities are given contracts to perform such duties.

### **Collaboration in the utilization of timber off-cuts**

Uganda's Forest Policy is committed to promoting peoples' participation in resource management and a more equitable sharing of benefits from forest resources. One of the strategies of the policy is the promotion of public awareness programs as a positive community building action, to generate raw materials and income while improving the quality of the environment. Sawn timber is conveyed to the big towns and no conscious effort is made to sell lumber to the local people. Besides, huge quantities of off-cuts and sometimes logs are left behind in the forest as "waste". The communities believe that they could profitably utilize the wood and have entered into discussions with the lead forest agencies (NFA and DFS) to collect and use the wood. Their only wish is to have access to such timber to convert into merchantable and profitable products. This is likely to encourage the establishment of forest-based enterprises and generate employment.

In Indonesia, forest management and harvesting operations are regulated under TPTI (Armitage and Kuswanda 1989). This system allows for all commercial trees to have 50-60 cm dbh (the minimum harvest diameter depends on the type of production forest), removed within a felling cycle of 35 years

### **Joint forest reserve management planning**

The commonly agreed characteristics of all such approaches are that the local people are capable of undertaking a useful role in forest management, and have a legitimate right to participate (Thomson & Coulibaly 1995). Kobbail (1996), FAO (1998), and Elsiddig et al. (2001) mentioned that sustainability of forest management depends upon having local communities work together with government agencies, concession holders, NGOs and other institutions involved in forest management in assessing, planning and monitoring management operations according to locally defined concerns, needs and goals. The aim is to get rural communities, government agencies and forest managers to work together. Joint forest management is attained through a series of workshops and consultations including: involvement of communities in forest management planning and policy formulation; integrated forest management process; and

revenue sharing from management of forest and forest resources. Upon formulation of management policies, the community members should be fully sensitized about them and also be given time to adapt to them. In a country like Nepal, where local biophysical, social, economic, and cultural conditions vary so markedly from one region to the next, allowing communities the flexibility to adapt management policies to local conditions is a crucial factor that impacts their success (Varughese and Ostrom 2001). Managing institutional change from the top down is not an easy task, and communities require the flexibility to incorporate context-specific learning into their management activities (Poffenberger and McGean 1996, Sundar 2000, Prasad and Kant 2003)

#### **Management of non-timber forest products (NTFPs)**

This programme involves local people extraction of forest resources largely focusing on the exploitation of NTFPs for household and commercial uses. The programme also targets different aspects of NTFPs exploitation, production, processing and marketing for both domestic and commercial purposes.

#### **Community contracts jobs through boundary maintenance, seedling production, plantation development**

Systems are now being implemented under which forest fringe communities enter into contracts to clean forest reserve boundaries in return for cash payments. Additionally some are also contracted to establish green-fire breaks to prevent wildfires from entering into forest reserves. The possibility of involving communities in patrolling is underway and if proved positive that system would also be adopted. Under CFM, some communities under a pilot scheme have been assisted to set up and manage their own tree nurseries to produce seedlings both for planting and sale. Apart from supporting such nurseries through the supply of inputs and offer of technical advice, NFA has been promoting the sale of seedlings from the community nurseries either through their own purchases or linking them up with tree growers to ensure their viability. It is anticipated that more of such nurseries would be set up to supply seedlings for planting in connection with the government's plantation programme.

## **2.2: Benefits of CFM to the adjacent communities.**

CFM has important implications in the conservation of biodiversity. Unlike plantations — which are usually limited to a single species — natural forests, even degraded ones, contain a great diversity of species. User groups deciding management priorities also tend to favour multiple uses, which also works in favour of biodiversity. Ingles(1994a) stresses the importance of community forestry to biodiversity conservation. He argues: "Nepal's National Conservation strategy could be improved by increasing its emphasis on community forestry and identifying activities that will increase the potential for community forestry to contribute to the conservation of biodiversity". The key to the strategy suggested in Ingles is a "simple rapid method for monitoring forest condition and biodiversity". The implications of community forestry for biodiversity in Nepal are considerable. In terms of biodiversity of plant species the implications are clear. There is also some potential for conservation of faunal biodiversity, although the benefits so far have been less obvious

CFM generally deals with agreements between forest departments and local people about forest protection. In return for protecting the forest, people receive access to a range of non-timber forest products, along with any resulting income. While actual arrangements vary from state to state, in most areas agreements include arrangements for sharing any benefits of future commercial harvests with the forest department. The size of the share varies but averages around 25 per cent (see Campbell, 1992, for a table of benefits in various states). In practice, relatively little in the way of benefits has yet emerged from these commercial harvests, probably because few forests have matured fully. Nevertheless, there have been significant financial benefits and income generation has been widely encouraged. Recorded examples of income generation include: bamboo for basket-making (Varalakshmi 1992); bhabbar and other grasses (Arora et al. 1993); and Pisciculture (Vijh et al. 1993).

According to Gibbs et al. (1990): "The ISFP's achievements include the creation of new land-use options designed to increase the tenure security of forest occupants, expansion of public land areas eligible for settled occupancy, the development of 'bottom-up' approaches to agro-forestry farm planning, and the development of an active research and programme-support group".

One of the tenure options that Gibbs et al, regard as particularly exciting is Communal Forest Stewardship Agreements (CFSA). These are leases issued to communities, including indigenous communities and some Islamic and migrant settlements. The leases indicate the boundaries of the relevant area (generally between one and four thousand hectares in size), but leave up to the community the further division of the land into plots (for more detailed discussion of CFSAs see Cornista and Escueta, 1990)

An awareness of the economic value of NTFPs or of selective harvesting of mixed forests can allow collaborative forest management to become more explicitly focused on conservation values while still allowing some forest use. Clay (1988, 1992) has shown how income from NTFPs from the Amazon rainforests can provide economic benefits without threatening biological or cultural diversity. The Cameroon case study mentioned earlier also suggests possibilities for combining conservation values with more deliberate economic strategies involving forest use. There is no obvious reason why these lessons could not sometimes be applied to protected area management as well as outside protected areas. In fact, Mitchell et al. (1990) describe a social forestry project in the Cyclops Mountain Conservation Area of Irian Jaya which explicitly links conservation and forest use.

The impact of CFM on livelihoods may encourage local participation (Beck, 2000), which in turn (especially when combined with commitment of participating communities) may regulate access to benefits, thereby curbing illegal activities. It is thus frequently argued that realization of local benefits by communities participating in to CFM yields sustainable resource use patterns and hence an improved forest condition. The latter may also lead to an improved flow of socio-economic benefits to the communities thereby eliciting further participation in CFM (Ghate, 2003).

After initiation of the Collaborative Forest, more women and poor people may get employment through the provision of the NTFP farming in the collaborative sites. NTFP cultivation like *Asparagus racemosus* (Kurilo), Medicinal plants, *Dendrocalamus sp.* (Bans) etc is significantly increased in the area (BISEP-ST, 2003). This has the help in the conservation of local biodiversity



In order to accommodate the needs of distant users and to address various issues associated with Terai forests, government introduced the concept of CFM in forest sector policy, 2000. This concept provides opportunity of setting up a new management mode for sustainable and productive management of Terai forest through sharing of tasks and revenues among all the stakeholders including traditional users (Bhandari1, 2003).

Effective Collaborative Forest Management will reduce such resource use conflicts between communities and timber companies, and consequently minimize overall management costs. By building good partnerships among stakeholders. There are good reasons why local communities, timber companies, and the local government should participate in Collaborative Forest Management. Some of the most common benefits of CFM are as follows:

For timber concessionaires it creates smoother logging operations with fewer conflicts with communities; Improved management of timber resources; easier control of the inventory/tracking of trees; increased trust from buyers for the legality of forest resources; greater market access for certified wood products; better access to consultation and support for certifications (e.g. Forest Stewardship Council); establishment of more sustainable forest management system through technical training.

For Communities it leads to, development of greater decision-making power and skills (community empowerment); improved livelihoods because of the good environmental condition (e.g. cleaner water, more fish, less soil degradation and erosion, and more biodiversity); more employment opportunities and new sources of income (e.g apiary, fruit growing, small-scale rubber plantations, and micro-credit); better understanding of natural resources management; greater gains from economic activities (e.g. sale of logs, non-timber forest products, and other forest products); more rights for indigenous peoples and greater protection of their cultural heritage; better control over land tenure issues; minimized conflicts with timber companies.

For local governments there will be improvement management of regional natural resources; greater control over illegal activities; increased tax revenue from legitimate logging activities; better sustainable forest planning for the future; less burden to deal with livelihoods security, land tenure, and resource use conflicts at the local level.

### **2.3: Challenges that hinder CFM**

Loss of use rights due to the land grabbing by more influential group; the lack of transparency within the groups, etc. are amongst the most sentimental problems existing at present in Nepal. While these situation may apply everywhere in the coutry, it is more serious in the Terai where the hill migrants have normally settled near the rich patchesof forest, and tend to manipulate the situation for their benefit (Baral and Subedi, 2004).

Community forestry is equally feasible and has an equally important role in the Terai as in the Hills. However, in the Terai conditions are different due to population density and composition, rapid population growth, and the presence of natural forests of high value, so a 'blanket approach' and a 'carbon copy' approach of programs from the hills will not produce the results envisaged (Shrestha and Budhathoki, 1993). It is often criticized that community forestry in Terai has encouraged those latecomers at the cost of indigenous community who are now miles away for forest.

Implementation of CFM is hindered by potential and actual conflicts that arise: between lead agencies such as the Forestry Department, the Uganda Wildlife Authority and the National Environment Management Authority; between different systems of land tenure, which is comprised of overlays of various forms of customary law with modern land and forest laws; between different land use policies, for agricultural expansion and for the conservation of forest resources; between central government, local government and local community priorities for the use of forest resources the lack of local capacity to manage and conserve these forests.

Many Local Forest Reserve boundaries are not clearly demarcated, leading to deliberate or accidental encroachment; the commitment by local authorities to sustainable forest management has been limited, with higher priority given to revenue generation than to conservation; the little of the revenue generated from forests, and passed from central to local government, has been re-invested in forestry leaving the forest adjacent communities with little or no benefits such as money to purchase incentives for the practice of agriculture; there no forest management plans and where they exist, they have rarely been integrated with district development plans thus leaving out CFM activities that seek for funding from the government. This is additionally attributed to the

still growing awareness in government about collaborative management of forests; and individuals often lack technical information and skills as there are frequently few or no local institutions through which they can participate actively in decision-making about forest resource management; there is limited provision in the current forestry law for legal agreements between the state and community groups to manage forests.

Competing forest management requirements and benefits such as revenue sharing schemes that constraint the working relationships for CFM which in the end hinders CFM as revenue sharing is considered more beneficial than CFM while also the lack of agency leadership can set back collaborative progress, consistent with one of the key barriers to collaborative forestry identified in Moote and Becker (2003)

#### **2.4: Strategies to cope with the challenges.**

Non-Governmental Organisations and Community-Based Organisations should provide a pivotal role in mobilising and sensitising local people, in strengthening civil society and in supporting their active participation in the management of forests and trees.

Harmonising approaches and legislation relating to collaborative forest management between lead government agencies, and with NGOs/CBOs.

Beyond the implementation activities internal to the collaborative, the groups must also have the ability to affect institutional and policy changes needed to facilitate implementation (Ansell and Gash 2008; Granner and Sharpe 2004; Wolff 2001)

In circumstances where government advisory services have had a limited ability to reach rural communities, NGOs and CBOs have been successful in supplementing the efforts of the public sector, in ensuring that the concerns of the underprivileged are incorporated in national development processes.

Developing a supportive legal basis for tree tenure, access rights and sharing of benefits from wood and non-wood forest products and revenue collected amongst the various stakeholders.

Developing security of land tenure for collaborative management of private forests.

Developing both the capacity and attitude changes in government and non-government agencies to create genuine partnerships for collaboration with local community groups.

Developing community institutions to ensure transparent decision-making, the adequate representation and participation of women, men and vulnerable groups and the equitable sharing of forest benefits and responsibilities.

Strengthening the role of NGOs/CBOs in mobilising communities and building capacity for implementing collaborative forest management.

Developing technical approaches to collaborative forest management that are consistent with the principles of sustainable forest management.

Formulating measures for addressing grievances and conflicts that arise amidst the various stakeholders.

In Uganda a scheme is being developed to provide loans and grants for private companies and individuals to embark on forest plantations and dedicated forest as a means enriching the off reserve timber resource

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction.

This chapter includes the description of the study area, the research design to be used, target population, sources of data, data collection instruments, Ethical consideration, data analysis, the validity and reliability, limitations of the study.

#### 3.1 Description of study area.

The forest lies at the heart of the biodiversity rich Albertine rift eco-region and is a site of global biodiversity importance. The forest categorized by the birdlife as a Key Biodiversity Area(KBA) and an Important Bird Area(IBA) because of the high diversity of 150 bird species, 18 of which are endemic to the reserve. Echuya is particularly known for its high quality bamboo, *Yashunia* alpine which covers approximately 20% of forest cover. The eastern side and higher altitude northern end of the kabale-kisoro road is covered by broad-leaved forest dominated by mature *macaraga kilimandscharia* and *Hagenia abyssininca*. The forest contains the large alpine wetland (muchuya swamp) which runs north-south along the reserve and draining into the southern boundary Echuya high montane forest reserve ( c.340ha ) is situated in the Albertine Rift region, southwestern Uganda between 1° 14'- 1° 21' S and 29° 47'-29° 52' E (Fig. 1)

Echuya CFR is located in the most densely populated area where, the average land holding per household is 0.8 ha and population density is 353.9 persons per km<sup>2</sup>.

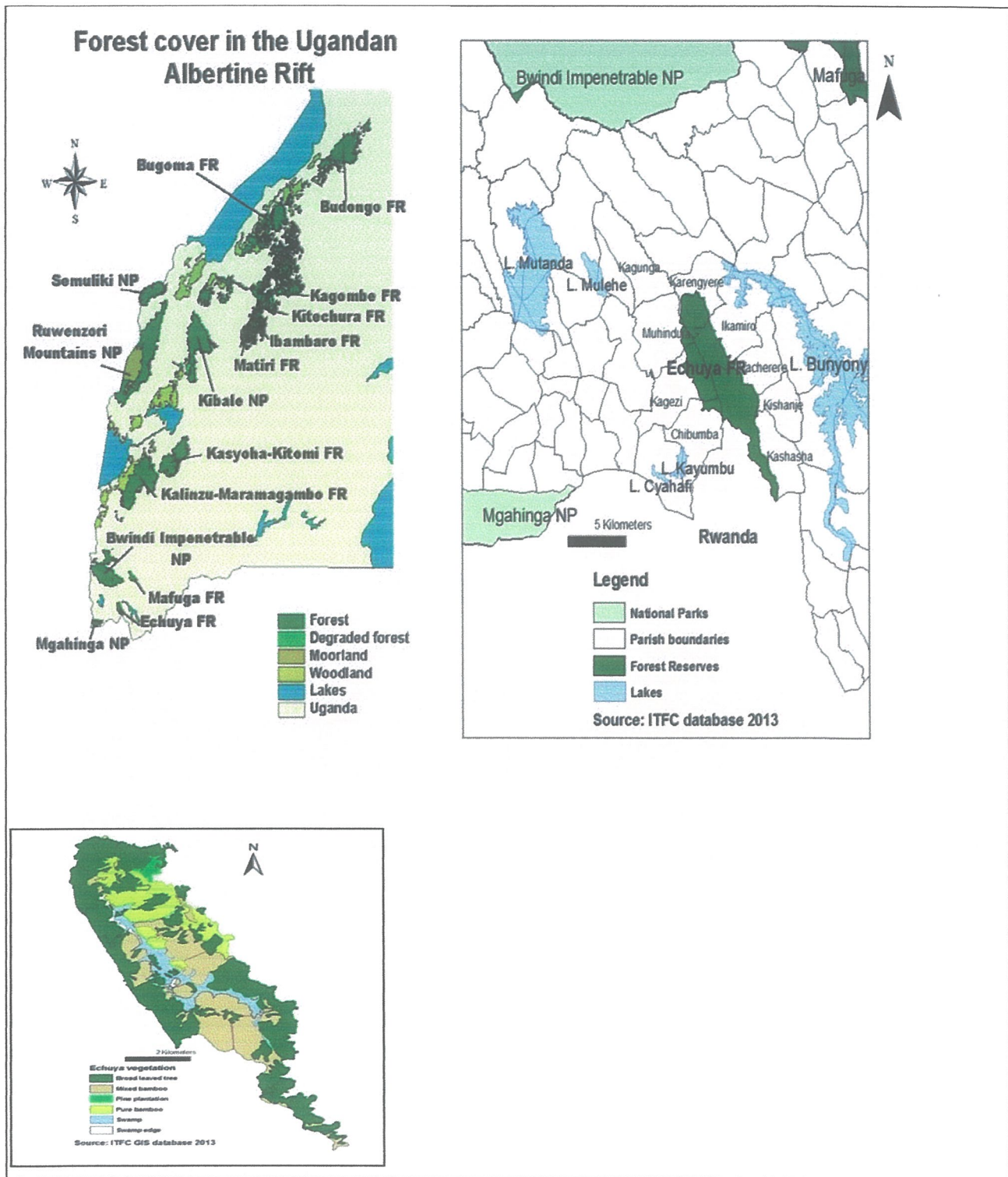


Figure 1 above shows the location map of Echuya Central Forest Reserve.

### **3.2. Research Design**

The researcher used across sectional approach of both qualitative and quantitative research design.

### **3.3 Target population**

This study targets the stakeholders of Echuya CFR who include NFA officials present in the area, Parish Extension Assistants(PEAs), the community members, Community based organisations (CBOs) and Non-Government Organisation (NGOs) present.

### **3.4 sample size and techniques**

#### **3.4.1 Sampling techniques**

Simple random sampling and purposive non-random sampling techniques were used in the study.

#### **3.4.2 Sample size.**

A sample size of 100 people was used to obtain primary data using the questionnaires and interview guide.

### **3.5. Sources of data**

Both primary and secondary sources of data were used in this research.

Primary data sources included data obtained from questionnaires, formal and non-formal interviews that were conducted.

Secondary data sources included journals, briefs, textbooks, research report online, and any other reliable information from the internet, already written reports on the performance of CFM, and newspapers, magazines.

### **3.6. Data collection instruments.**

#### **3.6.1 Questionnaires.**

The researcher designed questions that were convenient and time saving, interactive, inquisitive and could provide the necessary information that was used in the study. This instrument provided more information as both close and open ended questions were used. The questionnaires were administered to selected respondents from the four CFM groups who are actively taking part in the implementation of collaborative forest management ,these were given a period of one week to fill in the questionnaire.

For the members who could not read, write and interpret the English language, the PEA rendered help in translation of the questions into the local language

### **3.6.2 Interview Guide**

This was used to conduct formal and informal interviews composed of open ended questions to verify information in the study through a face to face interaction with the respondents who are key informants including development workers with government stakeholders, a range of Echuya Central Forest Reserve (ECFR) community stakeholders and community-based organizations; (CBOs) including both those directly involved in forest management and members of the wider community. The researcher conducted several interviews which were carried out at different times so as to get individual views without interference.

### **3.7. Ethical consideration**

The research study was approved by the supervisor and the researcher designed the research instruments which were used in the data collection activities. The researcher also obtained an official introductory letter from the Dean of School of Engineering and applied sciences which were presented to the local leaders in the research areas. The letter officially introduced the researcher to the respondents which enabled her officially conduct the study in the areas with ease.

### **3.8. Data analysis and presentation**

Data was edited, coded and tabulated for accuracy and completeness of the data gathered. The results were analysed using statistical form to generate frequencies and percentages.

### **3.9. Validity and reliability**

In this subsection the researcher used the authenticity of the results; validity of items in the instruments which was very important and so the research instruments were given to the supervisor for scrutiny. The comments that were made by the experts and colleagues were used in the making necessary adjustments and refining the final research instruments.



## CHAPTER FOUR

### PRESENTATION, INTERPRETATION AND DISCUSSIONS OF FINDINGS

#### 4.0 Introduction

This chapter comprises the demographic characteristics of the respondents, activities carried out under collaborative forest, the benefits that are being derived from CFM, the challenges arising from the implementation of collaborative forest management and the strategies in place to deal with the emerging problems.

#### 4.1 Demographic characteristic the respondents

**Table 1: Sex of the respondents**

Sex	Frequency	Percentage
Male	65	65
Female	35	35
Total	100	100

**Source: Primary data 2015**

The male respondents dominated by 65% and the women were 35%. This was because the existing CFM groups are majorly dominated by the males in terms of membership.

#### 4.2. The activities carried out under CFM

**Table 2: CFM activities at ECFR**

Activity	Frequency	Percentage
Forest rehabilitation	14	14
Community capacity building trainings	5	5
Joint forest protection	15	15
Regulated harvest of forest resources	13	13
Community tree planting	18	18
Promotion of agroforestry	16	16
Formation of CFM groups	19	19
Total	100	100

**Source: Primary data 2015**

From table 2 above, formation of CFM groups is the majorly conducted activity at Echuya central forest reserve with 19%. The reason for this being the major activity is the continued expansion of membership of the existing CFM groups in the nine parishes surrounding Echuya central forest reserve. Great emphasis and efforts are being made by the existing conservation NGO Nature Uganda, NFA staff present to bring forth increased social responsibility amongst communities since successful and sustainable CFM implementation greatly relies on strengthened partnership between the stakeholders and committed community participation.

Community tree planting is the second major activity conducted under CFM implementation at Echuya central forest reserve with the percentage of 18%. This was attributed to the efforts made by Nature Uganda to establish community tree nurseries that provide seedlings to be used in tree planting creating an alternative source for timber forest products that are highly demanded by the Forest Adjacent Communities meet the high demand of timber forest resources.

In the period of 2004 – 2008, Nature Uganda had planted over 600,000 trees and the species planted range from the fast growing agro-forestry species such as *Grivellia Grivelliarobusta*, through the medium growing to the slow growing ones such as Pine *Pinuspatula*. It was expected that the over 305,000 planted trees (including bamboo) by 1700 HHs would provide resources to over 13,000 people (representing over 70% of the population in the Forest Adjacent Communities for fuel wood, fruits, building poles and timber. This was in-turn anticipated to reduce pressure on the forest for fuel wood and other wood products.

The activities of Forest rehabilitation (14%), Joint forest protection (15%), Regulated harvest of forest resources (13%) and promotion of agroforestry (16%) nearly fall in the same range in accordance to the percentages of table 2. This is because these activities were being done on a regular basis/scheduled time by the different stakeholders.

Community capacity building training is the least done CFM activity with 5% and this was based on the evidenced insufficient capacity of the community members to implement CFM activities (such as forest monitoring, patrolling and reporting) and law enforcement on their own due to the limited resources and lack of skills needed in carrying out these activities.

### 4.3. The benefits of CFM implementation

**Table 3: Benefits of CFM**

<b>Benefit</b>	<b>Frequency</b>	<b>Percentage</b>
Biodiversity conservation	20	20
Domestication of forest resources on farmlands	17	17
Decline in illegal forest encroachment	18	18
Livelihood improvement	30	30
Increased social responsibility	15	15
<b>Total</b>	<b>100</b>	<b>100</b>

**Source: Primary data 2015**

Livelihood improvement of the FACs is the greatest benefit that has been derived from the implementation of CFM with the highest percentage of 30%.

Initially before the introduction of CFM, there was over dependence on forest resources was partly because of limited sources of alternatives for community livelihoods. In order to address this, Nature Uganda's Echuya project has greatly supported the development of enterprises focusing on high value products that would provide both short term and long term benefits. The enterprises promoted include; mushroom growing, passion fruit growing, beekeeping, apiary training, trainings on the construction of energy saving stoves, tomato tree growing, kitchen gardens and wine making from sustainable organic agriculture interventions.

According to estimates from farmers, most of the households are generating an average income of UGX 50,000 from sales of surplus produce per harvesting season of their products.

The implementation of CFM has also enabled the community members to obtain joint market for their produce thus minimizing on the chances of their produce going to waste due to lack of market. The adopted enterprises have also led to an improvement in the nutrition of the local Economic impacts that FACs have obtained from the implementation of CFM are summarized as increased household income from sale of forest products, Increasing opportunities for employment of local communities, increasing income from direct payments, increased income due to local infrastructure improvement

Communities through availing a balanced diet from the wide variety of fruits and vegetables grown in the kitchen gardens.

The FACs have benefited from access to forest products such as firewood, bamboo poles, craft materials, building poles, stakes for climbing beans, mushrooms, fruits, honey and bee products, pasture and medicinal herbs, which are collected for domestic use.

Biodiversity conservation is an ecological benefit to the FACs which has resulted from CFM and it emerges second highest from table 3 with 20%. This is attributed to the rehabilitation of destructed forest areas and limited access to the forest reserve. This has improved the condition of the Echuya Central Forest Reserve and also the Muchuya Swamp which is a habitat for the Grauer's Swamp Warbler indicating high chances of survival for the GSW as one of the flagship species for Echuya forest IBA. The high altitude 7 sq.km stretch wetland in the middle of the forest has experienced least disturbance especially from fires since the implementation of CFM providing conducive conditions for the wetland to regenerate and stabilize. A survey done in 2007 added 17 more species to the existing 320 species' list of Echuya hence increasing the understanding of fauna.

There is decline in illegal resource access accorded 18% in table 3 above. This is attributed to the CFM agreements that provides for legal and streamlined access to resources by the local communities all around the forest reserve. The major forest resource that was being accessed illegally was bamboo. Dry bamboo stems are harvested for building, fuel wood and fencing while the "fresh" bamboo stems (young stems) are harvested for crafts making such as basketry.

Increased social responsibility was the least ranked benefit (15%) by the respondents basing on the fact that not all the community members are CFM members while some of the existing CFM members are passive and just reluctant to participate in CFM activities, and when they are invited for a meeting, they demand to be paid. in the activities of CFM and only aim at receiving monetary benefits that may come along.

#### 4.4. The challenges being faced under the implementation of CFM

**Table 4: Challenges of CFM**

Challenge	Frequency	Percentage
Conflict of interest among the stakeholders	14	14
Insufficient funding for CFM activities	18	18
Lack of an equitable mechanism for benefit sharing	25	25
Cross border illegalities and continued encroachment	23	23
Lack of a forest management plan	20	20
<b>Total</b>	<b>100</b>	<b>100</b>

**Source: Primary data 2015**

The greatest challenge faced in the implementation of CFM is lack of an equitable mechanism for benefit sharing at 25% and the conflict of interest among the stakeholders with 14% as the least.

The biggest challenge arises due to the imbalanced profit sharing of revenue generated from the forest resources. There is a tendency of NFA taking up a lion's share on the generated revenue and leaving the community with little or none of the benefits causing grievances amongst the FACs and dis interesting them in the participation of CFM since most of the activities are done by the community members and yet they benefit less.

Cross border related issues arise from the part of the forest that borders Rwanda where the natives of Rwanda illegally access the forest resources majorly in the night hours and head back to their country taking advantage of different laws governing the different countries which may not be applicable if an offender flees to a different country away from where he committed the crime.

Lack of a management plan is also a great challenge as its absence brings forth short term planning that may be irrelevant/disadvantageous in the long run.

Conflict of interest among the stakeholders is the least of the challenges in table 4 above and this is attributed to the continued co-operation despite the existing conflicts and some of the existing conflicts include Partner NGOS and NFA want zoning of the reserve; NFA gives licenses for harvesting of forests resource (revenue generation) while local communities, LG and NGOs

oppose that the resource is being over harvested; Revenue sharing between NFA Local communities and LG from harvesting licenses local communities, LG and NGOs perceive that NFA staff are highly engaged in illegal activities while NFA maintains the contrary.

#### 4.5. The strategies in place to combat CFM challenges.

**Table 5: Strategies in place**

Strategy	Frequency	Percentage
Developing an equitable benefit sharing mechanism.	25	25
Raise long-term funding for CFM activities	18	18
Resolving conflicts amongst the stakeholders	14	14
Dialoging to solve cross border issues	23	23
Developing a forest management plan	20	20
<b>Total</b>	<b>100</b>	<b>100</b>

**Source: Primary data 2015**

Developing an equitable benefit sharing mechanism was the most fronted strategy by the respondents depending on the challenges they faced at 25% while resolving conflicts amongst the stakeholders was the least at 14%.

There is a great need to develop an equitable benefit sharing mechanism so as to promote and ensure equity, transparency and good working conditions that will in the end create harmony and motivation in the implementation of collaborative forest management

Seeking for long-term funding for CFM activities from the different sources such the local government, resolving conflicts amongst the stakeholders, dialoging to solve cross border issues, developing a forest management plan and developing both the capacity and attitude changes in government and non-government agencies to create genuine partnerships for collaboration with local community groups are other strategies that need to be adopted in order to overcome the existing challenges.

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This chapter is comprised of the general conclusions and recommendations

#### **5.1 Conclusions**

Through Collaborative Forest Management, Forest Adjacent Communities (FACs) are encouraged to participate in the conservation of Echuya Central Forest Reserve (ECFR), using the approach of shared roles, responsibilities, rights, returns. Nature Uganda in collaboration with the National Forestry Authority (NFA) undertook an initiative to foster CFM arrangement. The project area spurns Kisoro-Kabale districts in nine parishes. Four formal CFM agreements have been signed between NFA and communities.

The major activities carried out under this partnership are the formation of CFM groups and community tree planting which are very relevant aspects in the implementation of CFM because with active participation of FACs in the CFM activities, there will be assured sustainability of ECFR even in the absence of the other stakeholders. And with continued production of forest resources on farmlands will also help in the reduction of the pressure exerted on the forest resources in the reserve.

It is crucial to ensure that the needs of FACs are met majorly those of the forest people (Batwa) who have direct dependency on the forest resources. And this has been achieved by ensuring economic empowerment through the development of enterprises, and practicing sustainable organic agriculture. Awareness creation meetings, training on eco-friendly practices are also in place.

CFM implementation in ECFR faces challenges like any other area practicing this approach and in this case the major challenges that the approach faces are

## **5.2 Recommendations.**

The current status of the Echuya central forest reserve indicates that the CFM approach is effective and efficient to ensure sustainability of the forest reserve but this does not imply that the implementation is not facing any form of challenges.

I recommend that the stakeholders of Echuya Central Forest Reserve should draw a management plan for the forest Reserve and implement it.

The strategies developed through the questionnaires and interview guides should be put in place for the betterment and continuity of CFM in Echuya Central Forest Reserve.

A framework for monitoring the performance of collaborative forest management (CFM) implementation should also be formulated so as to periodically assess whether the approach is producing the required outcomes.



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## APPENDICES

### Appendix 1: Stakeholders survey questionnaire

I am Barahukwa Anke, a student of Kampala International University conducting a research study entitled “Impacts of collaborative forest management on the livelihoods of forest adjacent communities of Echuya Central Forest Reserve” as a requirement for the award of Bachelor of Science in Environmental Management.

The information availed will remain confidential and only be used for the purposes of this research study.

The questionnaire below should be answered by ticking the most appropriate alternative basing on the scoring scale.

#### SECTION A: BIODATA

- i. District .....
- ii. Central Forest Reserve: .....
- iii. Organization: .....
- iv. Designation: .....
- v. Sex: .....

#### SECTION B: ACTIVITIES CARRIED OUT UNDER COLLABORATIVE FOREST MANAGEMENT

Use the following scale for scoring:

1 = strongly disagree, 2 = somewhat disagree; 3 = neither disagree nor agree; 4 = agree 5 = strongly agree

Criteria	Score				
	1	2	3	4	5
1. There are formulated forest committees.					
2. The stakeholders are able to prevent and fight forest fires					
3. The destructed parts of the forest are being					

rehabilitated					
4. Stakeholders conduct forest patrols and boundary cleaning					
5. Integrated forest management is ensured					
6. There is promotion of plantation and community forestry					
7. The implementing partners fully understand their respective roles and responsibilities in Collaborative Forest Management and are committed to fulfilling them					

### C: BENEFITS OF COLLABORATIVE FOREST MANAGEMENT

Use the following scale for scoring:

1 = strongly disagree, 2 = somewhat disagree; 3 = neither disagree nor agree; 4 = agree 5 = strongly agree

Criteria	Score				
	1	2	3	4	5
1. Collaborative Forest Management activities are creating benefits both to the Forest Adjacent Communities and Responsible Body.					
2. Sharing of benefits resulting from collaborative partnerships ensures equity and transparency					
3. Collaborative Forest Management has created increases in economic benefits for the FACs					
4. Implementation of Collaborative Forest Management has created increases in social benefits for the FACs					
5. Collaborative Forest Management has created increases in environmental benefits					

## D: CHALLENGES OF COLLABORATIVE FOREST MANAGEMENT

Use the following scale for scoring:

1 = strongly disagree, 2 = somewhat disagree; 3 = neither disagree nor agree; 4 = agree 5 = strongly agree

Criteria	Score				
	1	2	3	4	5
1. The Implementation of Collaborative Forest Management being hindered by potential and actual conflicts amongst stakeholders.					
2. Many of the Local Forest Reserve boundaries are not clearly demarcated leading to deliberate or accidental encroachment.					
3. The commitment by local authorities to sustainable forest management has been limited.					
4. There is no forest management plan and if in existence, they are not integrated in District development plan.					
5. Community members often lack technical information and skills.					
6. Competing forest management requirements and benefits CFM.					

## E: STRATEGIES TO THE CHALLENGES OF CFM

Use the following scale for scoring:

1 = strongly disagree, 2 = somewhat disagree; 3 = neither disagree nor agree; 4 = agree 5 = strongly agree

Criteria	Score				
	1	2	3	4	5
1. Formulated measures for addressing grievances and conflicts that arise amidst the various stakeholders					
2. Developed supportive legal basis for tree tenure, access rights and sharing of benefits and revenue collected amongst the various stakeholders.					
3. Developed security of land tenure for collaborative management of private forests.					
4. Capacity building amidst stakeholders					
5. Developed community institutions.					
6. Strengthened role of NGOs/CBOs in mobilising communities and building capacity for implementing collaborative forest management.					

## **Appendix 2: Key Informant Interview Schedule.**

Guiding Questions.

### **A. The activities under CFM implementation**

- i. What are the activities resulting from CFMs?
- ii. How has the CFM partnership affected access and use of the forest resources?
- iii. What CFM activities have contributed to the protection of the forest against illegal activities?

### **B. The benefits of CFM.**

- i. What benefits have been created through the CFM partnership?
- ii. How has the CFM partnership influenced the management of conflicts between the RB and the FACs?
- iii. To what extent has the CFM partnership influenced the livelihoods of the FACs?

### **C. The challenges faced in the implementation of CFM.**

- i. What are the key sources of conflicts amongst the different stakeholders, if any?
- ii. Were these challenges existent before the implementation of CFM?
- iii. Has the implementation of CFM created any challenges, if any mention them?
- iv. How has the attitude influenced the management of the forest?

### **D. The strategies to the challenges.**

- i. What strategies were put in place through CFM partnership to address the above challenges?