People Partner with Nature for Sustainable Living Program

Socio-Economic Baseline Study around Kasyoha-Kitomi Central Forest Reserve

Final Report

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Environmental Surveys
INFORMATION, PLANNING & POLICY SYSTEMS

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This baseline survey for the ***Nature*** Uganda Program called "People Partner with Nature for Sustainable Living" was facilitated by a Consultant (Ms. Agrippinah Namara) together with a team of dedicated Research Assistants: Bonny Komuhangi, and William Sunday. The survey targeted communities around the Kasyoha-Kitomi Central Forest Reserve who are the beneficiaries of past and ongoing program interventions by Nature Uganda. We are grateful for the enthusiasm of the community members and their local leaders who spent their valuable time to participate in the survey. ***Nature*** Uganda would like to acknowledge all individuals and institutions who have contributed to survey and production of this report. The survey utilized data collection tools formulated by Nature Uganda and her partners (DOF, RSPB). *Nature* Uganda looks forward to utilizing the information generated in this survey for purposes of strengthening program relevance and its M&E systems.

LIST OF ABBREVIATIONS

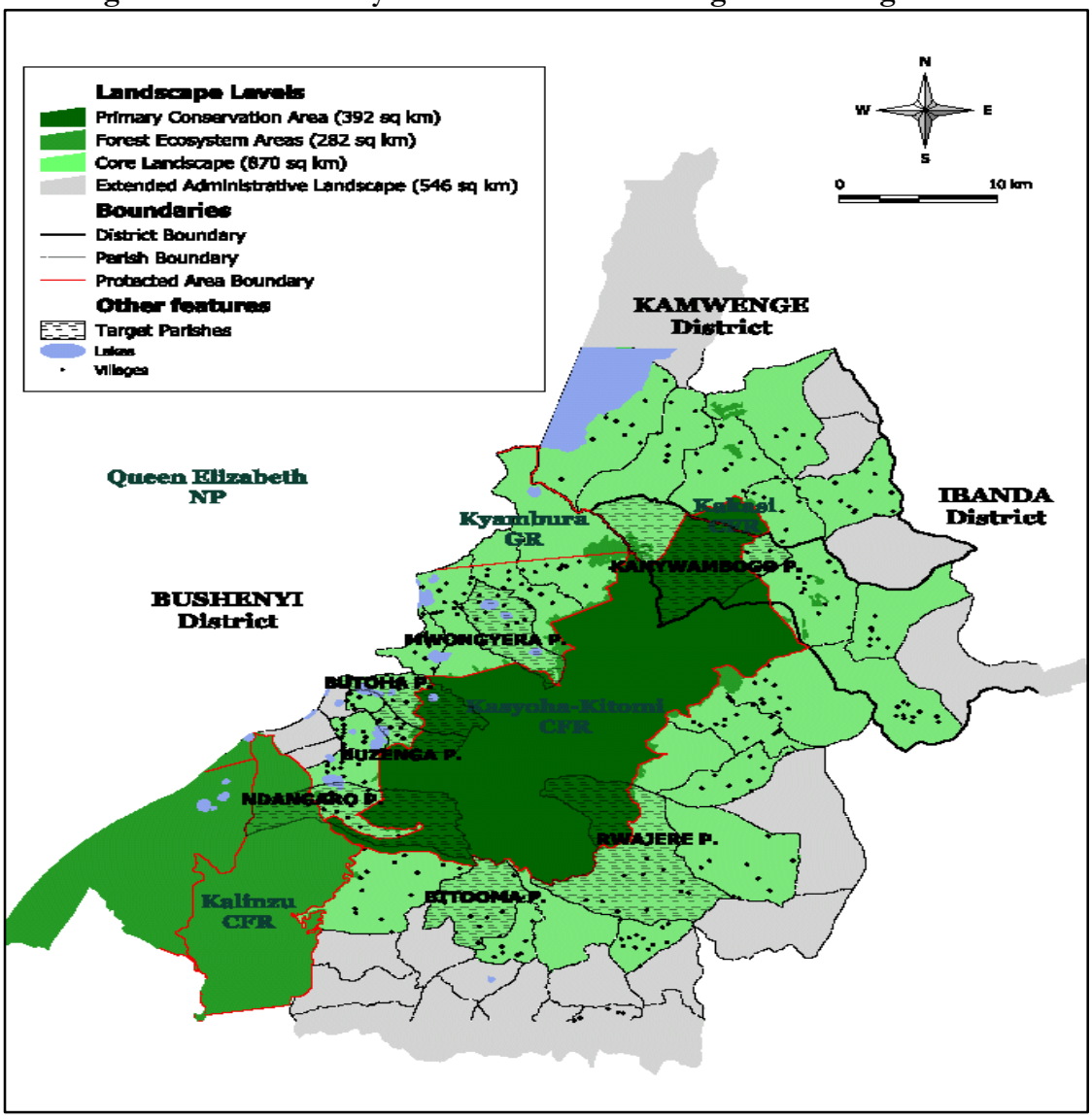
CFM	Collaborative Forest Management
CFR	Central Forest Reserve
DOF	Danish Ornithological Society/ BirdLife Denmark
KKFR	Echuya Central Forest Reserve
FGD	Focus Group Discussion
IGA	Income Generating Activity
NFA	National Forest Authority
NU	***Nature*** Uganda
SACCO	Savings and Credit Cooperative
SLM	Sustainable Land Management

CHAPTER ONE: INTRODUCTION

1.1 Background: The Kasyoha-Kitomi Central Forest Reserve landscape

Kasyoha-Kitomi CFR is one of the natural forests in the biodiversity rich Albertine Rift in Uganda. It covers an area of 40,264 ha located in Bushenyi, Rubirizi, Ibanda, Buhweju, and Kamwengye Districts. About 87% of this area is covered by tropical moist forests. Biodiversity studies, (Howard 1991[1], *cited in Bitariho et. al., 2016*) indicate that the reserve is of great conservation importance because it represents the most extensive tract of undisturbed forest remaining at the altitude of 975 to 2,136 m asl in Uganda. In addition, by virtue of its location close to postulated Pleistocene forest refugia, its great geological and topographical diversity, and the wide range of altitude represented, it hosts diverse flora and fauna. The mature forest communities of southwestern KKCFR are amongst the richest in the country; and the reserve supports at least four species of animals (elephant, chimpanzee, l'hoest's monkey and white-naped pigeon) considered to be globally threatened with extinction, or nearly so (Bitariho, et. al., 2016).

Fig. 1: Location of Kasyoha-Kitomi CRR showing surrounding Parishes



Source: Bitariho et al., 2016

[1]Howard P 1991. *Nature Conservation in Uganda's Tropical Forest Reserves*. 313pp, IUCN, Gland, Switzerland and Cambridge, UK

The forest is in the proximity of several urban centres including Bushenyi, Ishaka, Rubirizi, Ibanda, Kamwengye, Ndekye, Rutoto and Nsiika. These urban centres provide market for forest products like timber, fuelwood and others (Raben et al., 2007), as well as agricultural produce. The forest is an important watershed for surrounding communities, protected areas and water bodies, including Lake George within the Queen Elizabeth National Park. It is one of Uganda's few remaining medium altitude moist forests. The forest has been exploited for timber and fuel wood and assessments by conservation agencies classify the region as one of international importance in terms of global biodiversity values (DOF, 2015; Howard report 1996). The main threats on the forest are the need for timber, fuel wood, herbs, grazing, poles for construction, and fires, as well as pressure for agricultural land. Plumptre (2003[2], *cited in Bitariho et. al., 2016*) identified the major threats to Kasyoha-Kitomi forest as hunting for bush-meat, illegal harvesting of timber and other plant products, charcoal burning, forest encroachment for agriculture and mining. Between 1990 and 2005, the grassland areas of the CFR decreased by two thirds (from 2,362 to 777 hectares), while the extent of small scale subsistence farmlands (encroachment) more than doubled from 886 to 2001 hectares (NFA, 2009[3], *cited in Nsita 2011*)). This was attributed to high population growth rates in the landscape, coupled with inability of the then Forest Department to effectively control illegal activities in the late 1990s (Nsita, 2011).

Despite the fact that the current rules governing forest resource extraction in KKCFR do not permit hunting of wildlife and timber harvesting, a recent study (Bitariho, et al., 2016) revealed that timber harvesting and hunting are widespread in the forest. Collection of dead wood for fuel by local people is allowed within 2 km of the reserve boundary and only once a week. However, the study found that fuelwood collection took place daily and beyond the 2km distance from the forest edge. Felling of standing dead trees, which are ecologically important as nest and feeding sites for certain bird species, cutting and debarking live trees was also common practice. This was attributed to scarcity of dead wood because of high demand. Bitariho, et al., (2016) observe that although human activities seem to be at a low level compared to other natural forests in the region like Echuya CFR, they have been going on for a long time and may be having severe impacts on forest structure and composition.

1.2 Population

According to the 2014 National Population and Housing Census, the population densities of Bushenyi, Ibanda and Kamwengye Districts were above the national average of 173 persons/km^2. However only Kamwenge and Buhweju Districts' population growth rate was above the 3.0% national average, the rest of the districts had a lower population growth rate. This may indicate lower immigration and birth rates.

Table 1: Human population densities and growth in the Districts adjacent to KKCFR

District		2002-2014 Population growth rate	2002 population ('000)	2014 population ('000)	2014 Population density	2014 Average household size
Buhweju		3.1	82.9	120.7	161	4.8
Bushenyi		1.1	205.7	234.4	277	4.5
Ibanda		1.9	198.6	249.6	257	4.4
Kamwenge		3.8	263.7	414.5	177	4.6
Rubirizi		2	101.8	129.1	118	4.4
Uganda		3.0	24,227.3	34,635.7	173	4.7

Source: UBOS 2016

The twelve (12) sub-counties adjacent to the forest host almost 200,000 people (195,400 people[4]), shown in Table 2 below.

[2]Plumptre, A.J., Behangana, M., Davenport, T., Kahindo, C., Kityo, R., Ndomba, E.R., Ssegawa, P., Eilu, G, Nkuntu, D. and Owiunji, I. (2003) The biodiversity of the Albertine Rift. Albertine Rift technical report No.3, WCS, New York

[3]National Forestry Authority, 2009. Land Cover of Uganda, 2005 First Draft Report

[4] UBOS 2015. The 2014 Population and Housing Census Provisional results. Final census results are not yet analysed below the district level.

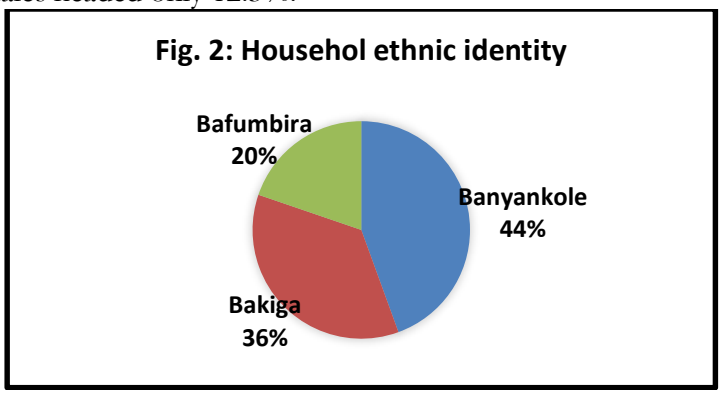
According to UBOS (2016), the average household size of districts in the region is generally lower than the national average of 4.7 people, except for Buhweju District which has an average household size of 4.8 people (see Table 1 above). However, as shown in Table 2 below, the average household size among sub-counties neighbouring the forest is generally higher than the parent districts' and national averages. In addition, the average size of the households sampled in this survey was 5.8 people per household, higher than the average household size of all the parent sub-counties and districts. This implies that households in the frontline communities are generally larger. This could be a result of remoteness, which influences people's awareness on issues like family planning, early marriages, polygamy and access to education in general.

Table 2: Human population in the Sub-counties adjacent to KKCFR

District	Sub-county	2014 population provisional census results	Sub-county average household size
Bushenyi	Bitooma	13,510	4.8
Buhweju	Burere	19,667	5.0
	Bihanga	14,501	4.9
Rubirizi	Katerera	10,391	4.4
	Katanda	18,954	4.8
	Rutoto	13,143	4.4
	Magambo	11,507	4.6
	Kyabakara	12,636	4.5
	Ryeru	13,292	4.8
Ibanda	Kicuzi	16,382	4.6
Kamwenge	Buhanda	24,534	4.7
	Kicheche	26,883	4.6
Total		**195,400**	

Source: UBOS 2015

There were 471 family members, with a female-male sex ratio of 1.01. Men (87.7%) headed most of the households, while females headed only 12.3%.



In terms of ethnic composition, the Banyankole, Bakiga and Bafumbira are the dominant ethnic groups. The sampled households were mainly Banyankole (44.4%), Bakiga (35.8%) and Bafumbira (19.8%). The Bakiga and Bafumbira originate in the densely populated South-Western Districts of Kabale and Kisoro. High rates of immigration in the environs of KKCFR were documented before (Raben et al., 2007). The respondents in Kicuzi Sub-county of Ibanda were mostly Bafumbira, while those in Rubirizi (Katerera and Katanda Sub-counties) were mostly Bakiga. The respondents in Buhweju and Bushenyi Districts were mostly Banyankole. This could mean that Ibanda and Rubirizi areas are experiencing higher immigration rates, possibly because the population densities are relatively lower.

1.3 Projects implemented at KKCFR

The Uganda Forestry Policy (2001) provides for community participation in forest management. Collaborative Forest management (CFM) has been implemented around CFRs to promote partnerships with local communities in forest management. The Management plan of KKCFR provides for licensed planting of woodlots of suitable species in the grassland areas of the FR by the local people for the supply of timber, fuelwood and poles, and for planting of trees along the FR boundary in a 10-20 metre strip inside the reserve to meet local people's domestic and income needs. A collaborative planning process of the Participatory Environmental Management Programme (PEMA) was implemented in 2004 - 2006, as an alliance of international development and conservation institutions (WWF Denmark, Care Denmark, DOF, Danish Institute for International Studies, Care Tanzania, Tanzania Forest Conservation Group, WWF Uganda, Nature Uganda) working together through a "Landscape Coordination Committee". The program implemented two methodologies for participatory planning: the Landscape Approach and Vision-Based planning. This intervention was called to as PEMA1. Its major outputs were: methodology development, landscape management plan/phase II design; livelihood interventions in pilot communities; Institutional development; civil society strengthening, action research and learning, and alliance building. The program piloted CFM in Kasyoha-Kitomi Central Forest Reserve (CFR), implemented by ***Nature***Uganda, in collaboration with the National Forestry Authority (NFA) (Nsita, 2011).

The first CFM site was opened in Buzenga Parish during the PEMA I project, where the Guidelines for Collaborative Forest Management in Uganda (Ministry of Water and Environment, 2003[5], *cited in Nsiita, 2011*) were tested.

The *Forests for People - Participatory Environmental Management in Uganda* (PEMA II) project (2007-2010) was implemented Kasyoha-Kitomi landscape by WWF Denmark and Nature Uganda, to scale-out the CFM methods and activities piloted during PEMA I, in seven parishes. Thus by 2010, Second-Level Community-Based Organisations for implementation of CFM had been created and operating in Buzenga, Bitooma, Mwongyera, Ndangaro, Kanywambogo, Rwanjere and Bitooha Parishes. A total of 4,029 men, women youth and People Living with Disabilities were participating in CFM activities. The activities included distribution and planting of tree, coffee and passion fruit seedlings, provision of livestock to farmers, distribution of bee hives, training in enterprise development and agroforestry and farmer exchange visits (Nsita, 2011). These collaborative management groups are still operational today, albeit with a few challenges.

In 2015 NU together with DOF, a partner in Denmark, secured funds to consolidate the achievements made by the previous and ongoing Nature Uganda interventions through "Integrating Livelihoods and Conservation" through a new Program called "People Partner with Nature for Sustainable Living". The overall objective is to reduce the depletion of forests and biodiversity. This will be achieved through participatory forest management, which involves and benefits local forest adjacent communities and supports the collaboration between community-based groups, responsible agencies for forests and biodiversity and local authorities. The Program is expected to both, contribute to improved livelihoods among the local poor who will benefit from better access to the forest and 'green' income generating activities, and to enhance the protection of forests and biodiversity. At another level, the Program will engage in advocacy for biodiversity protection and support networking and training of community based groups, in order for these groups to be better able to influence policy decisions and advocate for their own involvement in decision-making processes.

The long-term goal is to improve and qualify the management of natural resources, especially forested Important Bird Areas (IBAs), on which local livelihoods depend for food, fuel, etc. and for critical ecosystem services, such as water, soil conservation and reduced vulnerability to natural disasters such

[5]Ministry of Water, Lands, and Environment, 2003. Guidelines for Implementing Collaborative Forest Management in Uganda, 2003

as landslides, and climate changes. The long-term objective of the Program is to reduce the destruction of forested IBAs and contribute to the realization of best Participatory Forest Management practices for the benefit of all. This will be achieved through increasing the capacity of Program partners, to strategically work with the integration of poverty reduction and nature protection, improving livelihoods of poor communities, reducing pressure on ecosystems and biodiversity through Participatory Forest Management and empowering local civil society groups to engage in rights based advocacy and improving governance processes. NU commissioned socio economic studies to be undertaken among the communities adjacent to both Echuya Central Forest Reserve (ECFR) and Kasyoha-Kitomi Central Forest Reserve (KKCFR). This report is on the survey around KKCFR.

1.4 The socio-economic study objectives

The objective of the study was to gather background information about the target communities, mainly on demographics, social profiles of the population, gender, subsistence activities, forest activities, household economics, economic opportunities and threats, civil society, their governance and decision making structures.

Specifically, the study was supposed to do the following:

- Undertake social, demographic and gender profiling of the communities adjacent to KKCFR
- Undertake economic profiling and identify economic opportunities available to the communities
- Describe the existing civil society organization and governance situation
- Assess the existing networks and networking opportunities
- Assess the existing level of community participation in forest management and identify other opportunities of participation

The data collected will serve both, to develop activities that address the actual needs and realities of the communities and to secure the poverty orientation and gender balance of these activities and will form the baseline for monitoring and measuring progress and changes incurred by the Program. The survey was undertaken in April 2016. The survey team included the team leader (consultant), together with two (2) enumerators who had earlier participated in the ECFR survey, so had good understanding of the data collection tools. The team underwent a one-day refresher training to get a common understanding of the data expected and the approach to the interviews. The pre-formulated questionnaire provided by Nature Uganda was modified to suit the context in the field. Primary data collection was done over ten (10) days.

CHAPTER TWO: METHODS

2.1 Document Review

The consultant reviewed available documents to develop an understanding of the Kasyoha-Kitomi landscape, and previous NU interventions in the area. The documents reviewed included the PEMA I & II project documents, regular reports and previous surveys reports.

2.2 Household survey

The questionnaire survey was undertaken in eight villages located in eight parishes of Rwemitaagu, Kimuri, Munyonyi, Mwongyera, Rwanjere, Kanywambogo and Irimya, spread in the Districts of Rubirizi, Bushenyi, Buhweju, and Ibanda as shown in Table 3 below. All the sampled villages are adjacent to KKCFR.

The team selected households to interview randomly from the village register. The village Chairperson directed the enumerators to the sampled households. Every end of the working day the team leader and enumerators crosschecked the filled in questionnaires for completeness and consistency. The respondents were adults within the households, mainly heads or their spouses. In many of the households, more than one household member participated in the interview. The team conducted eighty-one (81) household interviews.

Table 3: Sampled villages and number of households

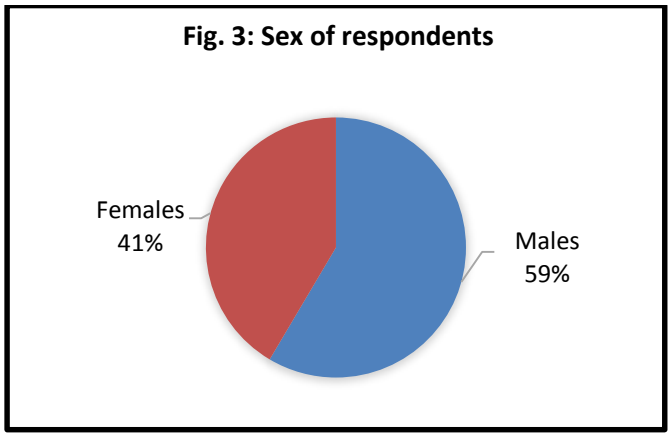
District	Sub-county	Parish	Village	Number of interviews	% of interviews
Bushenyi	Bitooma	Kimuri	Mirambi	10	12.3
Buhweju	Burere	Rwanjere	Ryakatanga	10	12.3
Ibanda	Kicuzi	Kanywambogo	Kibingo	10	12.3
	Kicuzi	Irimya	Rwebiyongi	10	12.3
Rubirizi	Katerera	Mwongyera	Kagorogoro II	10	12.3
	Rototo	Rwemitaagu/Ndangaro	Rwenkobe	12	14.8
		Rwemitaagu/Ndangaro	Nyabwiina	10	12.3
	Katanda	Munyonyi	Munyonyi V	9	11.1
Total				**81**	**99.7**

The Household questionnaire focused on many aspects, including:

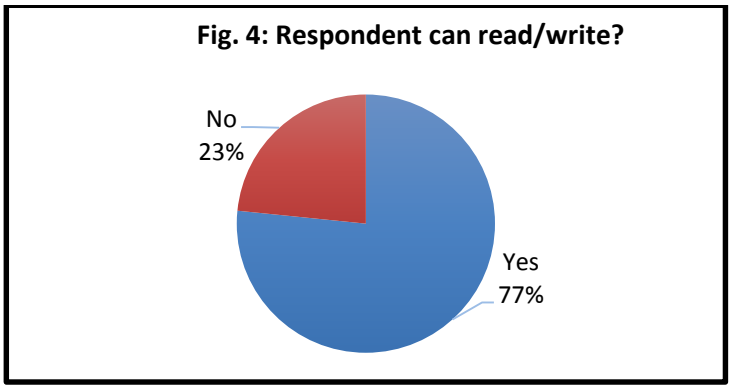
- Household demographic (numbers, relationships, gender, age, literacy, occupation, and ethnic identities of members)
- Land- amount of and characteristics of land owned by the household and whether it had increased/decreased in the last decade and land use, main crops grown and livestock reared by the household and the gender division of labour in farming activities
- main income sources of the household, approximate annual incomes and household gender division of labour in income generation
- Access to services: water and fuel, associated costs and gender division of labour in water and fuel provision, access to communication media and access to markets
- access for resources from KKCFR, approximate incomes from forest resources and gender division of labour in forest resource provision and other perceived benefits of the forest, and problems associated with its existence, and household participation in forest management activities
- constraints faced by women in subsistence and income generation activities
- Membership in community institutions like CFM groups, Village Savings and Loan groups and other institutions and perception by households of community priorities.

2.2.1 Profile of sampled households (be done after revieing data)

We interviewed ninety-four (94) household members. These were mostly men (59%), and 41% were women. The respondents were heads of households and/or their spouses. Women headed only 12.3% of the households.



Majority of the respondents (77%) said they could read and write. Among the sampled households' population, 66.4% who were of or above primary school age were said to read and write, and 33.6% could not. This indicates that in general two thirds of the communities are literate.



2.3 Key informant interviews

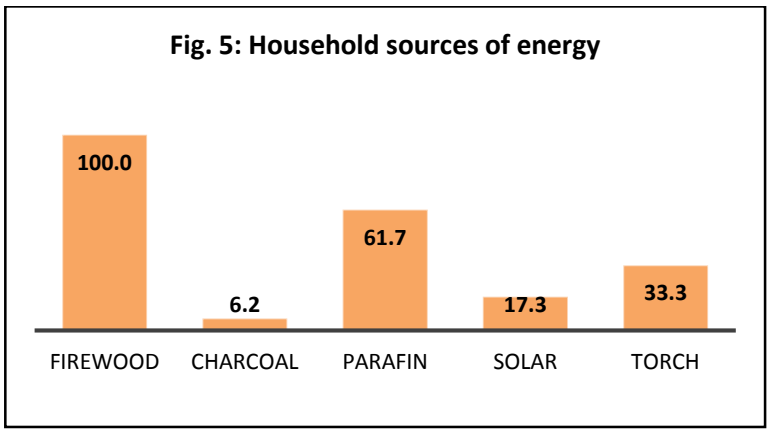
The team leader conducted key informant interviews among leaders of villages and the NFA Forest Supervisor and forest guards at Ndekye field station. The discussions focused general community development issues and challenges, issues of resource ownership, population dynamics, social services, the performance of community institutions especially the CFM groups and the performance of CFM in general.

CHAPTER THREE: RESULTS

3.1 Access to services

3.1.1 Energy

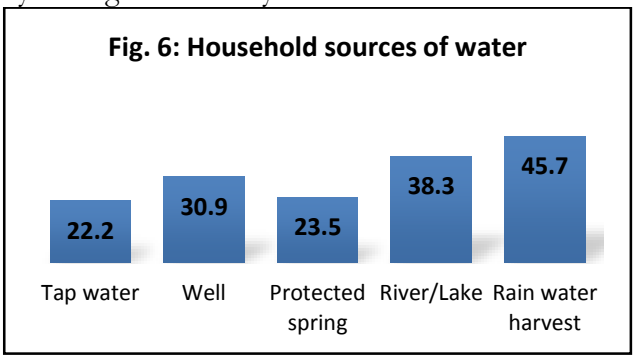
All the households sampled use fuelwood for cooking. While there are a few households that use fuelwood from their own woodlots, 74.1% of them use fuelwood collected from KKCFR. Majority of the households (95%) perceive fuelwood as readily available, and the only costs they acknowledge are the labour involved in collecting it from the forest reserve or their own woodlots (78%) and NFA restrictions (11.3%). This survey did not record an active market for fuelwood, as households seem to be collecting it mainly for own use. Paraffin is the most commonly used energy source for lighting. Seventeen percent of the households also used solar systems, and the main hindrance seems to be the high initial costs. Torches are also commonly used. Charcoal is not a common energy source, because it is more expensive than fuelwood, but also the area outside KKCFR is already heavily deforested. However, research inside the forest reserve revealed that charcoal burning takes place there (Bitariho et. al., 2016)



Among 51.3% of households whose primary source of energy for cooking was firewood, women did 60% and more of the work related to firewood provision. Men were responsible for 50% and above of firewood provision in only 13.6% and children in 17.3% of these households. Clearly, firewood provision is women's work. On the other hand, male members of the households provide paraffin, charcoal and solar systems, which involve cash transactions.

3.1.2 Water

Rainwater harvesting is the most commonly accessed source of water among the community (47%). The areas around KKCFR receive high amounts of rainfall. Therefore, households with sizable water storage facilities have access to clean water for long periods. The wells and rivers are located mostly at valley bottoms, and households located up the hills have challenges collecting water. The water also tends to be of poor quality, especially during extreme dry seasons.



Rainwater harvesting is thus one of the priority investments that household make when they get good income. Many of the households in villages adjacent to the forest fetch water from inside the forest or from rivers flowing out of the forest and water is one of the highly recognized benefits from the forest.

Access to clean water was acknowledged as a benefit from the forest by 20% of the households, while lack of accessible/clean water, especially in the dry seasons, was the fourth most cited livelihood challenge faced by 17.3% of the households. In most households, women and children fetch water.

3.1.3 Communication

The most commonly used communication means are radios and mobile phones. Three quarters (74.3%) of the sampled household have access to a radio. Men in the households own the radios. More than two thirds (69.2%) of the household have access to mobile phones. Men in the household (65.4%) and some women (19.2%) own the phones. Communities use radios to get information on government programs, get news but also send out and receive personal announcements. Phones are principally used to communicate to friends and relatives (84.6%), to link to buyers and suppliers, and get information about product prices (32.7%), and increasingly for mobile money (6%).

3.1.4 Access to markets

Majority of the households sell one or more products or crops. Beans, bananas, coffee, cassava, Irish potatoes and maize top the list of products sold by households. Only 5.3% said they sell timber, but in reality, many more people are involved in timber trade, and the study by Bitariho et.al, (2016) indicated widespread timber logging in the CFR. People do not talk about it because of the illegality associated with timber cutting. As Table 4 shows, beans, bananas and coffee are the backbone of the local economy. Land shortage in the area leads many people to look to the CFR for land to grow beans. Thus, support in terms of soil productivity enhancement in this community is key to local development. The presence of many marketable products also means that any setbacks in marketing caused by poor road systems affects the entire community severely.

Table 4: Main products sold by the sampled households

Product sold	Number of households	Percent
Beans	45	60.0
Bananas	39	52.0
Coffee	25	33.3
Cassava	14	18.7
Irish potatoes	11	14.7
Maize	10	13.3
Livestock	8	10.7
Tea	7	9.3
Vegetables	6	8.0
Groundnuts	6	8.0
Timber	4	5.3
Fruits	4	5.3
Rice	2	2.7
Charcoal	1	1.3
Peas	1	1.3
Sweet potatoes	1	1.3

The high demand for agricultural produce in the region creates competition among the traders and intermediaries. They traverse the villages to buy at farm-gate prices, often under-paying desperate farmers. About 32.1% of the household said they sold some of the products from home, and many more sell within their village. Women mainly sell products from home, within their village or at nearby trading centres. This is because they are less mobile due to other household responsibilities. Selling locally means that they sell at low prices to local intermediaries. Men on the other hand access further away, and markets that are more lucrative like Katerera, Kamwengye and Ishaka. Among the formal markets, Katerera, Rutoto, Kiyanja, Ndekye, Rwanjere, and Ryakatanga Trading centres are the most commonly accessed markets.

3.2 Economic profiling of the sampled households

3.2.1 Land and natural resource ownership

All the households sampled in this survey owned some land. Majority of the households (43.2%) owned one piece of land and another 40% owned 2-3 pieces. The total size of land owned by the household increased with the number of pieces owned. Thus, the average acreage of land among households with one piece of land was 1.65 ha, while the average acreage among households with 6 pieces was 6.7 ha.

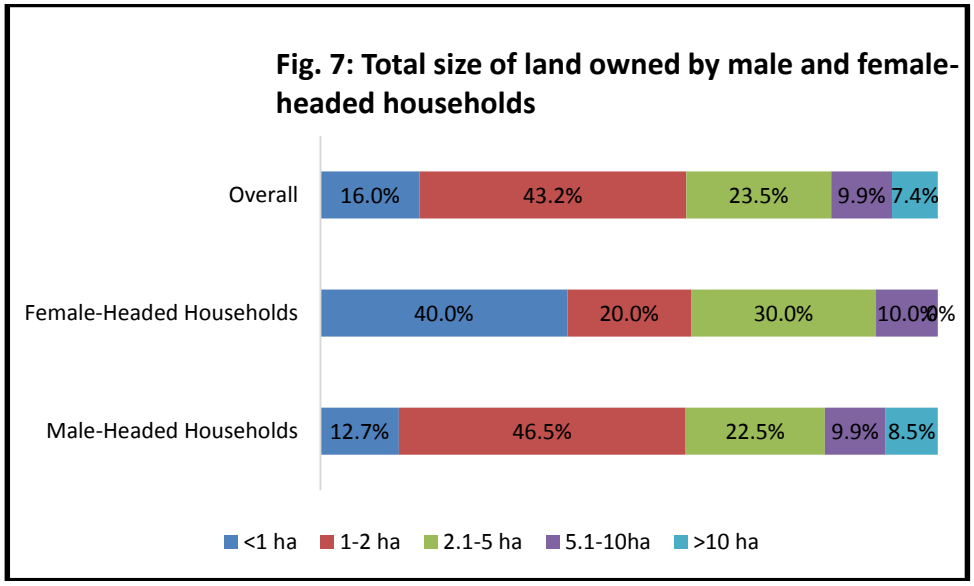
Men owned most of the household land. It was only in 16 (out of 81) households where women owned some land, and 10 of these were female-headed households. Land ownership is still mainly a male domain.

Table 5: No of land pieces and total land size owned by households

Group	Number of Households	Percent of Households	Average Acreage (ha)
1 Piece	35	43.21	1.65
2 pieces	19	23.46	2.42
3 pieces	13	16.05	4.06
4 pieces	7	8.64	7.57
5 pieces	3	3.70	11.67
6 pieces	3	3.70	6.67
7 Pieces	1	1.23	15.0
Total	**81**	**99.99**	

The smallest land size said to be owned by a household was a quarter of a hectare (only one household), and in total 16% of the households said they owned less than a hectare of land. Majority of the sampled households (43.2%) owned between one and two hectares. This indicates increasing land shortage in the area. Only 17.4 households said they owned above five hectares.

There is a notable difference between female and male-headed households. More female-headed households (40%) owned less than one hectare of land than male-headed households (13%)



More than a quarter (28.4) of the households said the size of the land they own had increased in the last ten years, and almost equal number (27.2%) said their land had decreased over the same period. The rest (45%) said the size of land they own had not changed in the last ten years. The main reasons why household land increased was purchase (82%), and to a much lesser extent inheritance (18%). The main reason why household land decreased was sale (52%) and bequeathing to children (48%). This indicates that there is an active land market resulting from increased land value as population density increases.

The richer people with access to liquid cash are consolidating land into their hands, as the poor people sell off, usually to meet household needs like health, school dues and other emergencies. This process ultimately leads to increased pressure on protected area land, as the landless household perceive the forest are their only source of land for cultivation, especially for annual crops. There is high demand for access to forestland for cultivation and livestock grazing, as we shall see below.

A quarter of the households (24.7%) rated the productivity of their land to be high, 43.5% rated it medium and 29.6% rated it low, mainly because of over-cultivation and poor quality soils (said to be stony, especially in villages in Ibanda and Buhweju Districts).

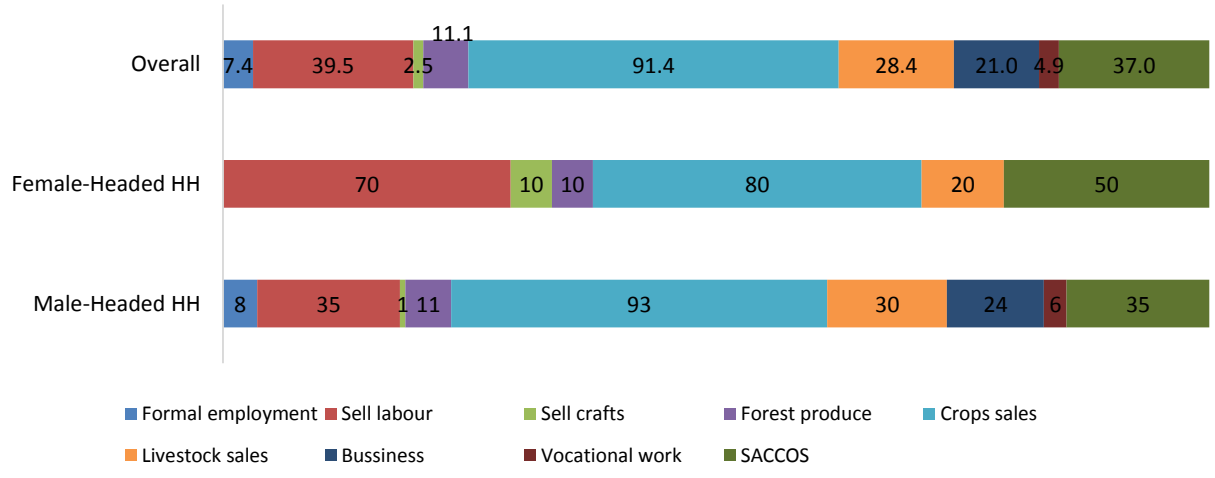
In 38.3% of the households, all the land they owned was used for crop growing. More than half (57%) of the households used 50-90% of their land for crop growing. Only 37% dedicated some of their land for livestock grazing. However almost 80.2% of the households mentioned that they owned livestock, and of these, 79% owned goats, 18.5% said owned cattle and 16.9% said they owned sheep. This implies high reliance on public lands (along roads/paths, government establishments like schools, local administration land) and the forest area for grazing.

While all households interviewed used fuel wood for cooking, only 38.3% had some woodlots on their land. Nsiita (2011) observes that little attention was given to growing of fuelwood woodlots outside the CFR. Thus, reliance on the forest for fuelwood and other tree products like poles, charcoal and timber remains high.

3.2.2 Main occupations and income sources among the community

All the households sampled engage in crop cultivation, and crop sales were the main income earner. Some households also keep livestock and others sell casual labour. Few households had members formally employed or engaged in vocational activities. Most of the households engaged in multiple income sources. Majority derived income from crop sales (91.4%) and casual labour (40%) and village savings groups (37%). These were followed by livestock sales, business and formal employment. Only 11% of the households mentioned that they derived income from forest products, but even the people selling crafts (2.5%) most likely got the raw materials from KKCFR. However, as will be shown later in this report, a large part of the crops sold are grown in the CFR land. However, respondents did not perceive cultivation on CFR land as "resource offtake". The illegality associated with resource extraction from the forest also leads community members to under-declare how reliant they are on forest resources.

Fig. 8: Main income sources for female and male-headed households

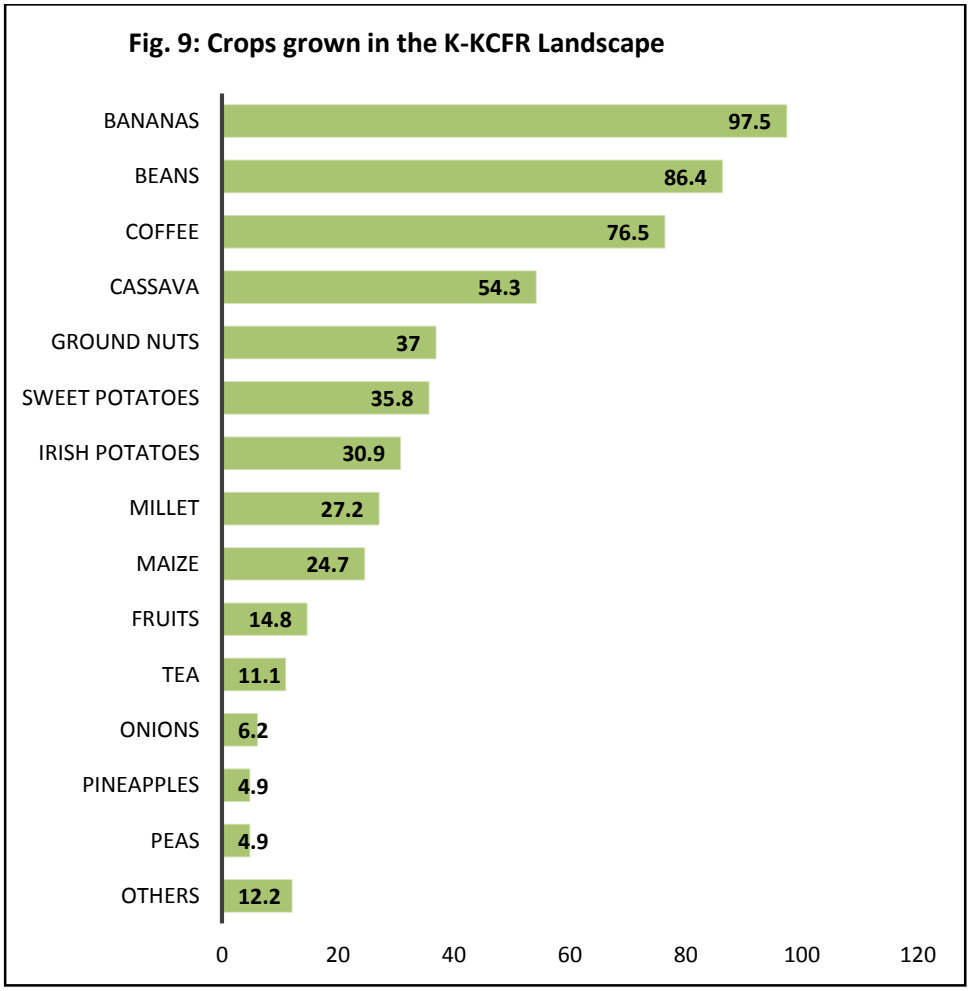


Casual labour and SACCOS were more important as income sources for female-headed households (FHH), while livestock sales and business were more important income sources for male-headed than

female-headed households. Female-headed households tended to be poorer than male headed households (MHH), so sell labour and rely on savings groups, while male-headed households with more liquid cash can accumulate assets (livestock) and engage in business because they have capital, and the male household heads are more mobile.

Crop cultivation

Crop farming is the backbone of the local economy in the landscape. All the households interviewed grew some crops. The ecosystem services provided by the natural forests in the area, translating into favourable climate and fertile soils enables the communities to grow a variety of crops. Bananas, beans, coffee and cassava were the most widely grown crops. Apart from coffee and tea which are exclusively cash crops, all the other crops are both staple food and cash crops. Perennial crops were mainly grown on land owned by the households, while annual crops were also grown on rented or borrowed land. Many households grow annual crops in the collaborative management areas or in areas CFR grassland areas leased to private tree planters.



The need for agricultural land seems to be the main impetus for participating in CFM for some households, and the NFA staff expressed concern about the extent to which communities are looking towards the forest for agricultural land (Interview with KKCFR Forest Supervisor, Ndekye).

Many of the households complained that poor road access in some areas makes crop marketing difficult and lowers the prices. There is increased domestic demand for food resulting from increased population, as well as demand across Uganda's borders. This favours crop farmers. The only problem is that the marketing bottlenecks (mainly due to poor roads) keep the incomes of farmers low.

Casual labour

The main employer of casual labour is agriculture. Farmers hire workers to dig and to harvest crops, since cultivation is still largely rudimentary. Others employ workers to tend to livestock. In general, it is the poorer households that sell their labour to richer households. Casual labour is also more important to female than male-headed households. The tea estates and out-growers in the eastern part of the landscape, plus licensed and illegal timber loggers also provide casual labour opportunities (cutting and carrying timber, burning and carrying charcoal). Since private tree planting in the CFR was initiated under the new forest policy, many jobs are available for local people, offered by the private tree planters, for clearing bush, planting and tending to the woodlots. Since many people are planting crops in the CFM area, they need to guard crops from wildlife damage, and this has created job opportunities for casual workers. In addition, there is a lot of labour needed to carry produce from the CFM areas to the village.

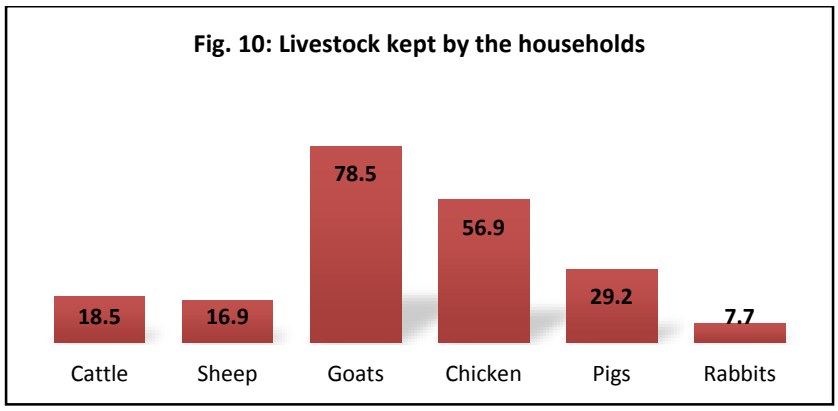
Savings groups

Most of the households (80.2%) have members participating in village savings groups. These groups were more important to female than male-headed households. These groups have grown to become major sources of credit in rural areas where the banking sector is not reaching. The friendly terms of loan access, the absence of indirect costs like transport to banks, time spent travelling, make them easily accessible to people in times of need. By generating interest from borrowers, members also benefit from sharing the profits made. This has made these groups major sources of income for participating members.

Livestock rearing

Majority (80.2%) of the sampled households owned some livestock. Goats were the most reared livestock (79%) followed by chicken (57%). The popularity of goats in the landscape (as opposed to cattle) is an indicator of land shortage. Goats are easier to feed along roads and the edge of the CFR and other public areas. Households cannot afford to set aside land for grazing, which is needed for cattle rearing. Smaller livestock are easier to maintain, and sell off if there is a need for money. Goat rearing seems to be the enterprise with great potential in the landscape. Bashaasha and Akello (2011) also recommended goat rearing as an entry point for achieving improvements in livelihoods in the landscape, because they are easier to graze, pose lesser competition for household labour, are generally disease resistant (especially local breeds), multiply fairly quickly, can be consumed locally or easily transported to distant to markets outside the landscape. The households in this survey said they owned goats ranging from one to twelve. Business as an income source was more important to male than female-headed households, probably because the latter generally owned more land.

The people who owned cattle had 1-2 animals, and only one person registered 7 animals. This is because with the existing land shortage farmers have to adopt intensive grazing on small land parcels or zero grazing. As Bashaasha and Akello (2011) show, the current land pressure and population density in the Kasyoha-Kitomi landscape is such that large size cattle herds are not feasible.



The most valued animal products were manure, followed by milk and eggs in that order. The frequent mention of manure as a product got from animals is an indicator that people realize the need to boost the fertility of their soils, given the increasing land shortage.

Business

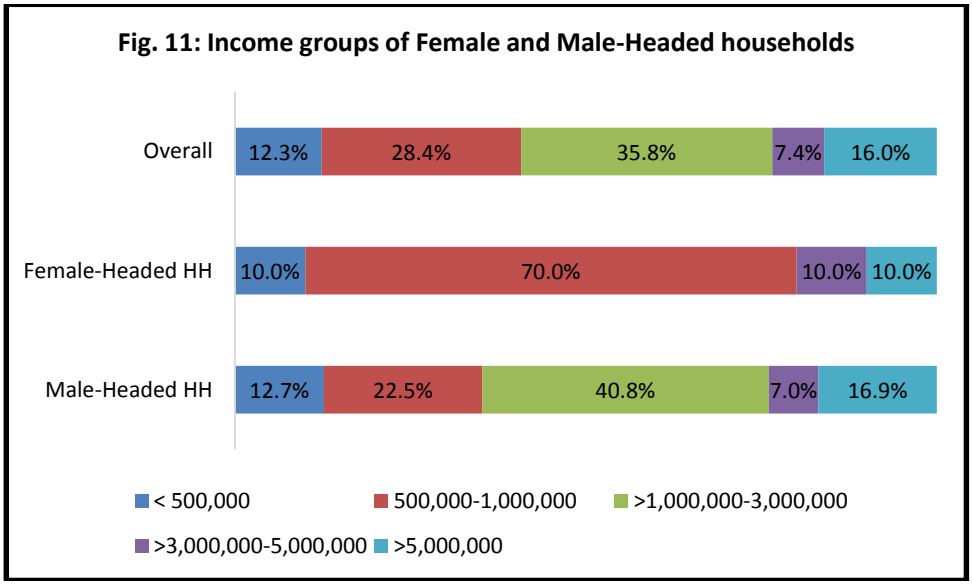
Fifteen percent (15%) of the sampled households derived income from some form of business. Households involved in business registered incomes higher than households who were only engaged in agriculture. The main business opportunities in the area are agro-based. There is lucrative trade in produce (coffee, beans, groundnuts, bananas, fruits, maize, etc.) and forest products (timber, charcoal and honey). The existence of major roads through the landscape and the expanding urban centres have all increased demand for products. The areas around KKCFR are major producers of food in the region. Business as an income source was more important to male than female-headed households, probably because men tend to be more mobile.

People also reported tree nurseries management as business in which CFM and other community groups and individuals are engaged. The widespread private tree planting in the grassland areas of KKCFR and on private land has created demand for seedlings (mainly pine and eucalyptus). Some groups also raise tea seedlings for sale.

3.2.3 Household Incomes

We asked respondents how much they had earned form the various activities the members of the households were engaged in over the last year. We then summed up the annual incomes from these various activities to get the total annual income of each household for the year 2015. Results show that twelve percent earned below 500,000 shillings. Over a quarter (28%) earned between 500,000 and one million shillings, 36% earned between one to three million, 7.4% between three to five millions and 16% earned above five million shillings. Considering that many people are inclined to underestimate their incomes, we can deduce that incomes are much higher than indicated here. By rural Ugandan standards, the income levels on the landscape are high. The data indicates that the population in the area have considerable income sources.

Fig. 11: Income groups of Female and Male-Headed households



There are notable differences between female and male headed households. Eight of the 10 female headed households (80%) earned 1 million or less, while 65% of the male-headed households earned above 1 million shillings. This indicates that female-headed households are generally poorer than male-headed households.

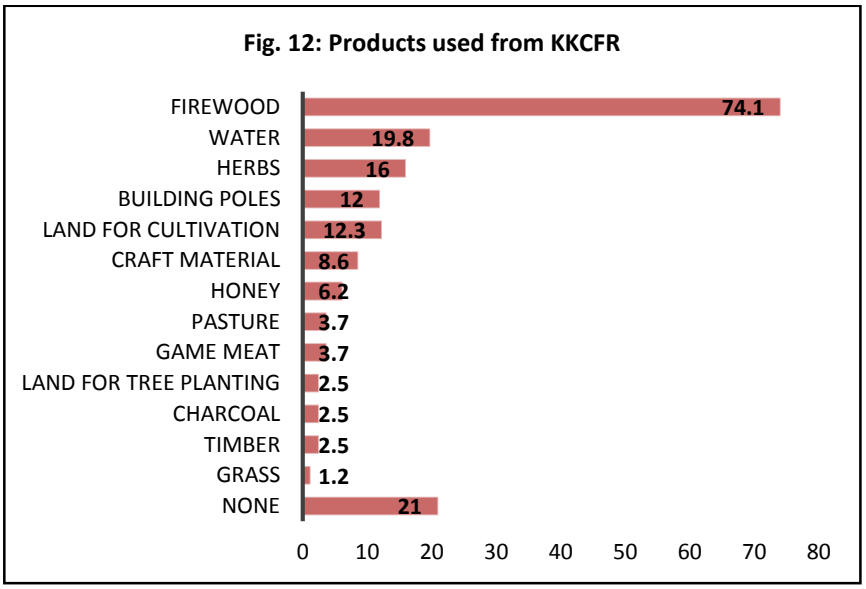
There were also some notable differences between the villages. Villages in Ibanda District (Kibingo and Rwebiyongi) and Ryakataga Village in Buhweju District had more households in the top income group (above 5 millions). Conversely, villages in Rubirizi District, particularly Rwenkobe and Munyonyi V had more people in the two lowest income groups. This is linked to available economic opportunities and land acreage owned by households. There is less land pressure in Ibanda and Buhweju Districts, than Bushenyi and Rubirizi Districts.

3.3 Community Interaction with Kasyoha-Kitomi Forest Reserve

3.3.1 Forest resource use

Three quarters of the households, (74.1%) said they get firewood from KKCFR. The rest mentioned that they get firewood from their private woodlots. The reliance on the CFR for firewood seems to have reduced from the 91% reported in 2010 (Bashaasha and Akello 2011). This indicates that some households plated tees for household needs since then, probably because of the interventions of PEMA I and II. The other resources significantly mentioned include water, herbs, building poles, and land for cultivation, craft materials and honey.

Of specific significance is the value attached to CFR land. While land in the CFR grasslands is allocated to CFM groups and other private tree planters specifically for tree planting, the community attaches more value to accessing this land for crop cultivation (mentioned by 12.3%), as opposed to tree planting (mentioned by only 2.5%). Some of the community members grow crops on land allocated to other [non-local] private tree platers. However, even those members of CFM who had been allocated land for tree planting in the CFR appreciated access to that land for crop growing, more than for tree planting.



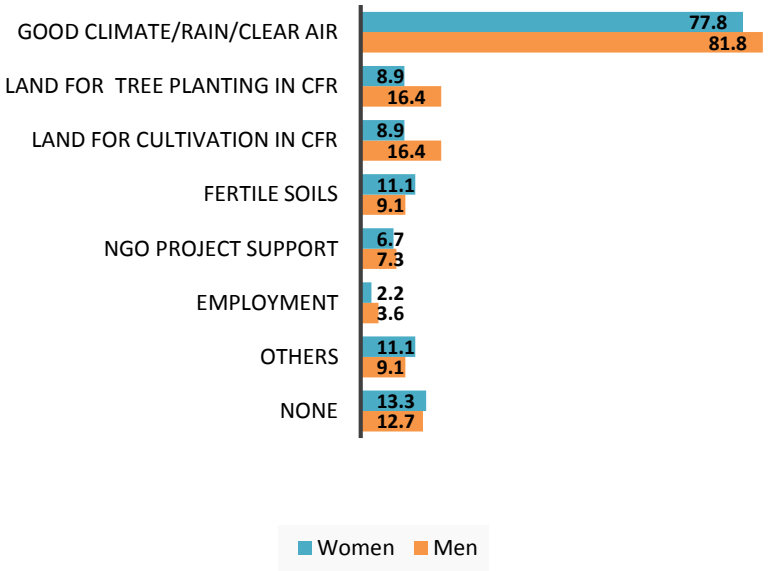
Twenty percent of households mentioned that they sold resources harvested from the CFR. These included honey (6.3%), firewood (3.8%) timber (2.5%) and charcoal (2.5%). However the team felt people were under-declaring their commercial reliance on the forest, mainly because most of the commercial uses are illegal. Firewood, the resource accessed by most households is majorly for household subsistence, through some households are using it in small-scale distilleries. However, crops and trees grown in the CFM areas are major income sources, though respondents did not perceived them as "resource off-take". Instead, respondents identified these uses as additional benefits of living near the forest, and primary as benefits of participating in CFM (see Figure 13).

3.3.2 Other benefits associated with KKCFR

Apart from the resources that many households get from ECFR, the community appreciates the forest for the environmental services it renders to the surrounding communities, as well as other material and financial benefits (Figure 13). Majority of men and women respondents appreciated the favourable climate (reliable rainfall) on which their agricultural livelihoods depend, as well as the cool environment and clean air the forest brings. A quarter of the households get water from the forest and others from streams that flow from the forest. Sixteen percent of the male respondent and nine percent of the females appreciated the access to forest land for cultivation and tree planting. In an area with high population density, many households have no land to grow annual crops, and rely on the CFR for cultivation of millet, beans, potatoes, peas, etc. The communities also appreciate that the existence of the forests contributes to the fertility of their land.

Apart from these environmental services, 7% of the households identified the NGO programs that the forests attracts (including ***Nature***Uganda) as a benefit they realized. Others acknowledged financial benefits from forest-related employment, allowances from meetings (especially CFM process meetings) and occasional tourism activities.

Fig. 13: Other benefits associated with KKCFR



3.3.3 Economic aspirations of the sampled households

We asked men and women separately about what they would do to improve their household economy. The responses are presented in Table 6 below. Acquisition of livestock came out strongly as an option by both men and women. Livestock, especially sheep and goats are important because they are money banks, but more importantly, the manure they generate increases land productivity. This is important because the people know it is vital to increase the productivity of their land given the land shortage in the area. That is why the next most mentioned option was acquisition of land. That is also why use of manure/fertilizer was mentioned among the aspirations.

Communities feel they are too reliant on a few crops (bananas, beans, coffee), and when there is a problem of crop disease (especially the current banana wilt disease), household economy is greatly affected. In addition, the output per unit of land is decreasing due to soil exhaustion. As such, many respondents felt the need to adopt crops whose output per unit is high in terms of resultant income, e.g. fruits and mushroom.

Table 6: Livelihood aspirations of household

Economic aspiration	Women		Men	
	#	%	#	%
Acquire livestock	25	46.3	32	55.2
Acquire land	21	38.9	20	34.5
Diversify crops	18	33.3	17	29.3
Invest in business	12	22.2	14	24.1
Use manure/fertilisers	9	16.7	10	17.2
Join SACCO	7	13.0	8	13.8
Expand cultivation	6	11.1	13	22.4
Plant trees	4	7.4	10	17.2
Do beekeeping	1	1.9	4	6.9
Brick laying			2	3.4

Investing in business is important in the region because it enables people to live off agriculture, given the acute land shortage. More men than women mentioned beekeeping

.

We asked respondents what inputs were necessary for them to undertake the above activities. Table 7 below shows the responses. Capital, livestock, land and improved crop seed were the top priorities of both women and men.

Table 7: Inputs needed to realize livelihood aspirations of household

Inputs	Women		Men	
	#	%	#	%
Capital	46	93.9	61	117.3
Livestock	14	28.6	9	17.3
Land	10	20.4	7	13.5
Crop seeds	8	16.3	6	11.5
Training/agriculture extension	4	8.2	7	13.5
Tree seedlings	3	6.1	11	21.2
Manure/fertilizers	3	6.1	1	1.9
Labour	2	4.1	1	1.9
Implements/tools	1	2.0	5	9.6
Good roads	1	2.0	1	1.9
Extension services			2	3.8

We asked respondents how they would utilize any additional income earned by their household if the economy improved. The responses are shown in Table 8 below. The top two priorities of women and men are strikingly different: while women prioritized children education and acquisition of livestock, men's priorities were buying land and building a better house. Just as the survey in Echuya showed, women rated investing in children education higher than men did. Men on the other hand rated upgrading their residential house higher.

Table 8: How women and men would use additional household income

Inputs	Women		Men	
	#	%	#	%
Invest in education	41	**82.0**	26	46.4
Buy livestock	30	**60.0**	26	46.4
Buy land	27	54.0	38	**67.9**
Build better house	20	40.0	28	**50.0**
Invest in business	18	36.0	23	41.1
Save in SACCCO	4	8.0	5	8.9
Buy solar	4	8.0	4	7.1
Expand agriculture	3	6.0	5	8.9
Furnish home	3	6.0	8	14.3
Buy clothes	3	6.0	1	1.8
Buy means of transport	1	2.0	12	21.4

By seed	1	2.0	1	1.8
Plant trees			3	5.4

3.4 Civil society organization and governance

3.4.1 Collaborative Forest Management in KK-CFR landscape

Collaborative Forest Management has been implemented around KKCFR since 2004. The CFR management plan allows for licensed planting of woodlots of suitable species in the grassland areas of the FR by the local people for the supply of timber, fuelwood and poles, and .for planting of trees along the FR boundary in a 10-20 metre strip inside the reserve to meet local people's domestic and income needs. CFM in Kasyoha-Kitomi Central Forest Reserve (CFR) opened through the facilitation of the Participatory Environment Management Approach (PEMA) Project, implemented by *Nature*Uganda, in collaboration with the National Forestry Authority (NFA).

3.4.2 Participation in Collaborative Forest Management (CFM)

Of the sampled households, 44.4% said they one or two members of their households were members of a CFM group while 55.6% said they were not members. Majority (77.1%) of the households participating in CFM had been members for 6-10 years. Only 14.3% had joined in the last 5 years, while 8.6% had been members for more than 10 years. This indicate that the majority of the CFM households joined CFM during the time of the PEMA I and PEMA II program.

Table 9: Households participating in CFM

Are household members in CFM groups?	Number	Percent
Yes	36	44.4
No	45	55.6
Total	81	100

3.4.3 Participation of women and the poor in CFM

In 20 households a woman was participating in CFM, 14 of these had both female and male CFM members. The women roles in CFM were identified mainly as planting trees and tending to woodlots in the CFM areas, as they cultivated crops on the same land. Some of the women also participate in income generating activities of CFM groups like tree nursery management (the tree seedlings are sold to private tree planters and tea seedlings to farmers), making energy efficient cooking stoves and some had group livestock projects.

We asked members of these households about what benefits women derived from participating in CFM. Over a fifth (23.3%) mentioned the free tree seedlings supplied to CFM members by NFA and NGOs, and another 20% mentioned the fact that their households got access to land for tree planting as the benefits women derived. So, a total of 43% acknowledge the benefit of being able to grow their own trees in the CFM area as a benefit of CFM, in line with the CFM objectives. Forty percent of the households mentioned access to land for cultivation in the CFR as the benefit realised by women, especially because the role of feeding households, and, increasingly, of earning household income is mainly a women's role. Some of these household did not relate this access to tree planting, which is a primary objective of the CFM program. This attitude should be a cause for concern to conservation and development program implementers. Indeed the NFA Supervisor expressed concern that communities view the CFM program as primarily a system of accessing agricultural land in the CFR. A fifth of the households participating in CFM (20%) mentioned access to forest resources (fuelwood, herbs, poles, honey, etc.). Seventeen percent (17%) acknowledged incomes from CFM related activities like tree nursery management, sale of energy saving stoves, allowances and payments

All the households participating in CFM said their groups included some poor people. The poor people were mainly said to benefit from CFM through getting free tree seedlings, land for cultivation, access to

forest resources, being enabled to grow their own trees and training and IGA support offered to CFM groups, in that order.

Table 10: Benefits that women and the poor derive from participating in CFM

Benefits	To women		To the poor	
	Responses	%	Responses	%
Land for cultivation	12	40.0	15	45.0
Free tree seedlings	7	23.3	17	51.5
Access to forest resources	6	20.0	5	15.2
Grew own trees	6	20.0	5	15.2
Allowances/profits from CFM activity	3	10.0		
Training/IGAs support	3	10.0	7	21.3

3.4.4 Challenges facing CFM in the KKCFR landscape

Although CFM groups were allocated land as groups to plant group woodlots, in some groups, members subdivided the land into individual plots because the members had different interests and capabilities. Richer CFM members had more capacity to hire labour, clear land and plant trees faster than poorer members. Poorer members on the other hand, especially those who own limited agricultural land, were interested in crop cultivation for longer periods in the CFM area, delaying tree planting. When land was subdivided into plots, some poor members actually sold off "their" plots to rich CFM members, or even non-members. This contributed to lack of cohesion within CFM groups, and allegations of corruption and exclusion among members.

On the first day of this survey we found a meeting in progress in Rwenkobe Village, Ndangaro Parish, where an uprising by village members against what they called unfair allocation of grassland areas in the forest to rich and non-local people. The villagers had planned an attack on the CFM leaders and the private tree planters. This had attracted the attention of police, who called the meeting to quell the situation. Most respondents in this survey sounded the complaint that the rich and well-connected non-local people are prioritized over forest neighbours in allocation of the CFR grasslands for tree planting. The anger is directed to both NFA staff and CFM leaders, who many accuse of being corrupted by the rich.

Only 14 households mentioned that women faced some challenges in participating in CFM. Half of them mentioned corruption of CFM leaders as mentioned above. Others mentioned high membership and subscription fees, which seem to be perceived as an exclusionary tool against the poor. The risk of rape while in the forest, the long distances involved in going to the forest and household obligations that make them miss many CFM meetings and activities were also cited as problems for women.

Almost two thirds (60%) of the respondents who acknowledged that the poor face problem within CFM said it was difficult for the poor to participate in CFM because of high membership/subscription fees. Another 40% mentioned that corruption by CFM leaders was a challenge for poor people in participating in CFM, as they tended to be side-lined in land and seedling allocation (20%). Five percent said the poor people were not considered for CFM leadership positions. Some of the poor CFM members were said to have sold off their CFM plots to others who had capacity to plant trees, and many respondents mentioned that poor CFM members do not attend CFM group meetings, thus remaining on the fringes.

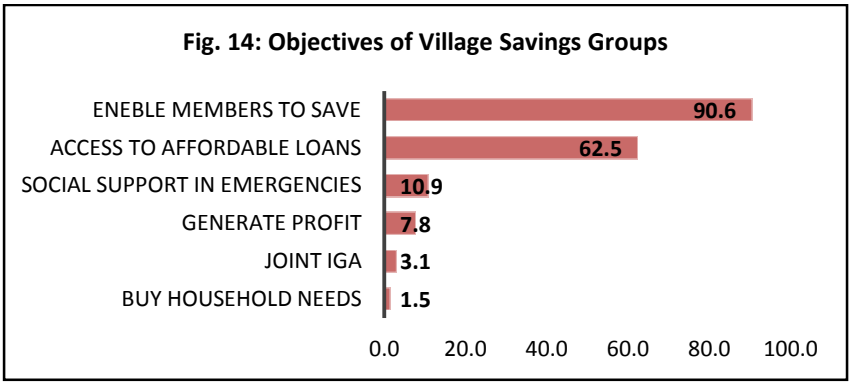
Many of the LCs and household respondents felt that the community input in terms of forest protection is not matched by the direct benefits they get from the forest as a result of their efforts. For example they do not get a proportional share of the penalties from illegal entrants, and from confiscated timber and charcoal. The NFA staff also complained that CFM members involved in patrol teams always demand for to be paid by NFA for their time and they think they are supposed to get 50% of the fines, including the timber confiscated from illegal loggers, which, in her words, "*is against the law*". But as Nsita (2011) observes, to cement the good will created by the CFM approach to CFR management, there is

need for mechanisms to share proceeds from penalties, including sale of illegal timber impounded through joint patrols between NFA and CFM patrol groups. The author adds that through the law does not specifically provide for benefit sharing neither does it specifically prohibit it, thus it is possible for the NFA to draft benefit sharing mechanisms through normal administrative guidelines.

While Nsita (2011) documented NFA was by the time of his survey of the view that forest crime had reduced drastically after CFM was initiated, and that NFA field staff stated that they had fewer problems in CFM areas unlike in areas with no CFM, in this survey the NFA staff mentioned that CFM members are involved in illegal activities like charcoal burning and timber logging. In the view of the NFA field staff, there is need to review CFM agreements because the CFM members are not acting according to the agreements. But community members also claim that NFA is not respecting the provisions of CFM and the agreements.

3.4.5 Savings and Credit Groups

Majority of the households (80.2%) have one or more members participating in village savings and credit groups for a duration ranging from one to 20 years. The main objectives of those groups were to enable members save (91%), and to provide access to affordable loans (63%). The other objective of such groups is to generate interests from loans, which is then shared by members. However, the social support accorded to member in times of emergencies like illness and death, the fact that such groups are at times able to engage in joint income generation activities (tree nurseries, poultry keeping, bee keeping, trade) are also important objectives for some groups. Other groups aim at helping members to furnish their homes with basic needs like beddings and utensils or even collectively buy and share food during the festive seasons.



Among the key benefits that respondents have realized from being members of these savings and credit groups (Table 11) were access to affordable loans, earning from interest charged on loans and group income generating projects, and members using profit to purchase assets like livestock, land or household equipment. Access to money when faced with emergencies like illness or when needing funds for school fees was also identified as an important benefit.

Table 11: Benefit realised from being part of a savings and credit group

Benefit	Responses	Percent
Access to affordable loans	38	61.3
Share group profits/income	18	29.0
Pay medical/school fees	10	16.1
Purchase of livestock	8	12.9
Purchase of household equipment	5	8.1
Purchase land	5	8.1
Social support from members	2	3.2
others benefits	4	6.4

The important point to note is that most members of village communities participate in one or several savings groups, and these can form an important link with communities for purposes of project

communication and activity implementation. Apart from the above institutions, some community members formed other groups like women groups involved in selling labour jointly, tree nursery management, poultry or beekeeping. Most of these were sub-groups of CFM groups.

3.5 Challenges affecting the community

Majority of the respondents identified land shortage (43.2%) as a problem facing their households. This problem is linked to other challenges: It leads to over-cultivation of land and poor yields (23%), degraded soils (10%), food shortage (10%), and contributes to poverty (7.4%). The pressure on the land in the landscape means that many households have less land than they need to earn a decent livelihood. This makes the communities to focus on the CFR as a source of land for cultivation, but also makes them perceive the conserved land as wasted. In a way it has led to less than optimal performance of CFM because people cultivating in the CFR area focus more on crops than trees. Some who are allowed to cultivate in land parcels allocated to private tree planters as they tend to young trees are said to make the trees die off so that they cultivate the area for longer periods. The extreme need for land has also been capitalised on by private tree growers allocated land in the CFR to charge peasants who need land for crops. This has contributed to conflict among the community.

High on the list of challenges is also the general lack of social services. In the landscape, feeder roads are poor, schools are of poor quality or too far from forest-neighbouring communities, health services are generally unavailable in accessible distances. The people generally feel neglected by government. Inaccessibility makes produce marketing difficult, and so prices of agricultural produce are low. Yet agriculture is the main income earner.

Table 12: Perceived challenges affecting households

Problem	Responses	Percent
Land shortage	35	43.2
Lack of health services/ diseases	27	33.3
Low agricultural yields/crop diseases	21	25.9
Lack accessible/clean water	14	17.3
Poor roads/transport	12	14.8
Low prices for produce	11	13.6
Lack good schools	10	12.3
Lack of electricity	10	12.3
Poor soils/ soil erosion	8	9.9
Food shortage	8	9.9
Poverty	6	7.4
Restriction on forest use	2	2.5
Alcoholism/Gender-based violence	2	2.5
Lack of labour	1	1.2

The problems and their causes are cyclical. Low prices of produce are blamed on remoteness and lack of social services, poverty is blamed on land shortage and vice versa, overpopulation is blamed for land shortage, food shortage is blamed on low crop yields and over-cultivated soils, etc.

Table 13: Perceived causes of challenges affecting households

Cause	Responses	Percent
Remoteness/poor roads	29	36.7
Limited land	25	31.6
Lack of money/poverty	19	24.1
Neglect by government/corruption/poor leadership	16	20.3
Over-cultivation of land/poor soils	13	16.5
Crop diseases	10	12.7
Over-population	9	11.4
Unemployment	7	8.9
Lack clean water/poor sanitation	4	5.1

Lack of labour	3	3.8
Others	3	3.8

The government is seen as the main duty bearer in providing services (roads, schools, health services, supporting income generating activities). Some of the community members see their role as that of holding the government accountable through change of leadership. NGOs are seen as facilitators of training and awareness creation on improved farming methods and support of forest-based enterprises and other income generating activities.

Table 14: Perceived solutions to challenges affecting households

Proposed Solution	Responses	Percent
Government provide services	31	47.0
Training in Improved farming methods	24	36.4
Allow more access to forest land	17	25.8
Support alternative Income generating activities	12	18.2
Change leadership	5	7.6
Support alternative forest-based enterprises	3	4.5
Others	5	7.6

3.6 Challenges affecting women in meeting household subsistence and earning income

Poor crop yields resulting from tilling over-cultivated land due to land shortage was the most mentioned challenge that women face in meeting household subsistence needs. This results into food shortage. Some 14% of the women mentioned limited household labour, which results in producing less food. This is partly caused by men who abandon household subsistence provision to women, as well as families that are very large, especially when most the members are not directly participating in food production (e.g. children, the elderly, and men).

The challenges against women's effort to earn income were similar to those that they face in subsistence provision, and the challenges facing the community in general. However, there was high prominence given to poor health as a challenge. Other women-specific challenges included limited opportunities available to women to earn income, lack of capital, gender-based violence and low pay for women's labour.

Table 15: Challenges facing women's efforts to meet household subsistence and income needs

Household subsistence needs			**Income earning**		
Challenge	**#**	**%**	**Challenge**	**#**	**%**
Poor crop yields	33	40.7	Poor crop yields	31	39.7
Land shortage	31	38.3	Land shortage	25	32.1
Food shortage	22	27.2	poor health	23	29.5
Limited household labour	11	13.6	Limited household labour	13	16.7
Lack of water	10	12.3	Lack of capital	8	10.3
Infertile soils	8	9.9	Infertile soils	7	9.0
Poverty	7	8.6	Few income opportunities	7	9.0
Men don't participate in household activities	3	3.7	Low prices for produce	4	5.1
Large families	3	3.7	Poor roads/access to markets	4	5.1
Poor Health	3	3.7	Gender-based violence	3	3.8
			Food insecurity	3	3.8
			Low pay for women's labour	3	3.8

3.7 Forest-related challenges

Crop damage by wildlife was the most quoted problems facing the households (Table 16). Primates were the most cited animals damaging crops. This was followed by remoteness and lack of social services, which is blamed on the existence of the forest. The forest is also alleged to be a source of vectors that

cause diseases like malaria and river blindness. Perceived harassment by CFR staff, which may just be regular law enforcement, was also cited as a problem. The level of reliance on the CFR for resources is very high as indicated by Bitariho et al., (2016). Most of the resource offtake is illegal. However, the communities perceive selective application of law enforcement against the poor and weak, while the rich and well-connected illegal resource harvesters seem to go unabated. The problem of corruption by CFM leaders, especially in allocation of group benefits was also cited.

Table 16: Perceived forest-related challenges affecting households

Problem	% Female respondents	% Male respondents
None	31.3	21.3
Crop damage by wildlife	50.0	61.7
Remoteness/lack of social services	21.9	17.0
Diseases/vectors	10.9	12.8
Corruption& harassment by CFR staff	9.4	12.8
Corruption by CFM Leaders/ conflict within CFM groups	6.3	8.5
Human/livestock injury	1.6	2.1
Too much rain	1.6	2.1
Land shortage	1.6	

3.8 Key community level priorities

We asked respondents to identify three key priority needs of their communities. Better schools, roads, health services, clean water, support of alternative income generating activities and access to CFR for farming topped the list. The general lack of quality social services in the landscape is a big livelihood challenge for the communities. Being primarily an agricultural landscape, there is need for roads to market the produce; otherwise, prices tend to be too low for households to make a decent living. Moreover, with no quality health services, the people spend more to access services, or lose a lot of time due to ill health. Water is key for household wellbeing. Provision of clean water is also an initiative that can greatly improve community appreciation of for conservation if provided under a conservation initiative. Thus, development intervention in the area should consider water provisioning as a program.

Fourteen percent (14%) of the male respondents and 11% of the females identify access to CFR land for farming as a community priority. This should be a cause of concern. It calls for initiatives of intensive land use, to improve agricultural practices in the landscape, so that people are able to reap more from their own land, and reduce pressure on the CFR. This should be coupled with alternative income generating activities that yield highly on small land areas.

Table 17: Perceived community priorities according to men and women

Community priorities according to female respondents			Community priorities according to male respondents		
Community priority	#	%	Community priority	#	%
Better schools	30	54.5	Better schools	30	58.8
Better roads	17	30.9	Better roads/access to markets	18	35.3
Health services	29	52.7	Health services	27	52.9
Provision of clean water	29	52.7	Provision of clean water	32	62.7
Govt give IGA support	9	16.4	Govt give IGA support	4	7.8
More access to CFR land for farming	6	10.9	More access to CFR land for farming/grazing	7	13.8
Access to electricity	3	5.5	Training in improved agriculture/extension services	5	9.8
Others	5	1.8	Access to electricity	5	9.8
			Provide livestock	3	5.9
			Others	5	9.8

CHAPTER FOUR: CONCLUSIONS

Firewood remains the main energy source for communities in the in the KKCFR landscape. Less than 40% of the households have woodlots on their land, and in general, there is little woodlots outside the FR, mostly because of land shortage, but probably because the communities do not perceive wood shortage since the CFR is there. Thus, reliance on the forest for fuelwood and other tree products like poles, charcoal and timber remains high. Conservation programs will thus need to continue the tree planting campaigns begun under PEMA, so that majority of the household have some woodlot on their land. In addition, other energy saving technologies (e.g. improved cook stoves) and alternative sources of energy (especially biogas) will need to be popularized. Biogas for individual household use can be generated from waste of three cattle. Many of the household already have these cows. Cattle can be zero grazed, and serve both food and energy needs of the household. Men own the land, but firewood provision is mainly a responsibility of women. This means that any interventions aimed at addressing the wood and energy issues should target both men and women as key stakeholders.

A large section of the community depend on water from inside the forest or from rivers flowing out of the forest, and water is one of the highly recognized benefits from the forest. Since lack of accessible/clean water in the dry seasons is a major livelihood challenge in the landscape, conservation massages should highlight the environmental services offered by the forest to justify why communities must actively protect it.

A large section of the community have access to radio and telephones. These two communication media will make it easier to transmit conservation messages, and information on program activities. Most rural Uganda have local FM stations, so it is easy to broadcast information in local languages.

Households in frontline communities tend to be larger than sub-county and district averages. This may be associated with limited awareness on issues of family planning, early marriages, polygamy and education in general, resulting from the remoteness of these communities. Large families and high population growth rates within CFR frontline communities imply more pressure of CFR resources. There is clearly need for awareness creation on issues of family planning, children education and the dangers or early marriages.

Crop cultivation is the backbone of the local economy around KKCFR. Due to increasing population and the associated land shortage in the area, many people look to the CFR for land to grow annual crops and for grazing. The need for land for crops in a way undermines tree planting in the CFR and CFM in general, because cultivators are said to kill the tree seedlings to ensure continued cultivation of the land. Thus, support in terms of soil productivity enhancement on community land is key to local development and forest conservation. But this also calls for a review of the CFM program to ensure that parties respect their obligations.

Generally female-headed households had less land than MHH. This probably explains why less FHH kept livestock than MHH, because it can be challenge with insufficient land. This means that interventions that promote livestock and business opportunities are more likely to benefit male than female-headed households, unless the latter are specifically targeted. SACCOs are the best means to reach women and enable them to save, access financial resources for emergencies and small scale businesses.

KKCFR has gone a long way in implementing participatory forest management through the CFM approach. A lot of gain has been made in resolving issues of contention between the communities and the NFA. However, there are a number of challenges within CFM groups, and between CFM groups and the NFA. These need to be addressed for the approach to work even better. To enhance the good will created by the CFM, there is need for review of the CFM agreements, and even adoption of new

forest management administrative guidelines e.g. to provide mechanisms to share proceeds from penalties from illegal activities unearthed through joint patrols between NFA and CFM patrol groups.

Majority of the household sampled participate in village savings and credit groups (SACCOs). SACCOs enable members to avoid the costs of accessing formal financial services. SACCOS have several advantages. Both men and women are active participants in these groups. These institutions can be utilized to channel important program messages and can be mediums of implementation of program activities. The level of organization within these groups is commendable and development and conservation initiatives should take advantage of them.

RECOMMENDATIONS

Household energy

- Continue the tree planting campaigns, so that majority of the household have some woodlot on their land.
- Promote energy saving technologies including improved cook stoves, and promote alternative sources of energy (including biogas) to serve energy needs of the household, reduce the amount of fuelwood being sourced from the forest, to free women's labour for other productive activities, and allow children more time to study.
- Target both men and women in energy-related interventions, because while men own the land, the women are the main providers of fuelwood.
- Promotion of affordable/subsidized solar systems would improve the health of the communities, contribute to the global shift towards clean energy, and create goodwill among the communities for conservation, if the benefit is clearly linked to the forest

Other environmental services

- Capitalize on the value that communities attach to KKCFR as a source of water and contributor to soil fertility to create awareness on the environmental services provided by the forest and the need to conserve it.
- Promote rainwater-harvesting technologies at subsidized costs to alleviate the problem of water, improve sanitation among the communities and increase appreciation for conservation.

Land productivity

- Promote soil productivity enhancement methods on community land. This could be through promotion of the use of organic manure, since many household already own livestock. Households with no livestock can be supported to acquire them. Other improved soil and water conservation technologies should also be popularized.
- Promote alternative income generating activities that yield high per unit area, and require small land area.

Collaborative forest management and civil society organization

- Review the CFM agreements with NFA and the CFM groups, to identify possible sticky points that may be causing non-compliance. The process of review will also act as a dialogue and conflict resolution mechanism.
- During the review process, the issue of membership and subscription fees charged by CFM groups should be re-examined and agreement reached on amounts that do not turn out to be exclusionary to the women and the poor, to make CFM pro- poor and to work for women.
- Lobby NFA and Government to develop guidelines for benefit sharing of proceeds from penalties of illegal activities, including confiscated timber.
- In order to attract and retain CFM membership, additional incentives need to be part of the package (so that it ceases to be seen purely as a mechanism of accessing CFR land for agriculture). Members need to be engaged in alternative income generating activities like apiary and other sustainable land management interventions (mushroom growing, livestock rearing, fruit farming, etc.).

- Beekeeping as an income generating activity needs to be further promoted as part of CFM, because the market for honey is there. This will have to go hand in hand with clear mechanisms of self-policing to avoid undertaking illegal activities under the guise of beekeeping in the CFR.
- Most households are members of in multiple SACCOS. Program implementers should capitalize on SACCOS to mobilize the communities around specific causes and activities. For example, energy saving stoves and water harvesting tanks can be promoted through SACCOs. SACCOS can also be used as communication channels. SACCOs are also the easiest means to reach women and enable them to save, access financial resources for emergencies and small scale businesses.
- To relieve pressure in ECFR resources, the Program must creatively engage with both communities and NFA, especially in halting illegal timber logging. Good will has to be encouraged on both sides. Otherwise, the communities perceive selective application of the law.

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ANNEX: SUMMARY OF BASELINE FINDINGS AND RECOMMENDATIONS

Area of work	Summary result	Key recommendation
Social, demographic and gender profiling		
Socio economic, cultural (and political) factors including population dynamics at both community and household levels	• Population densities of Bushenyi, Ibanda and Kamwengye Districts were above the national average of 173 persons/km². Population growth rates are generally below the national average, indicating lower immigration and birth rates • Household size among sub-counties neighbouring the forest is generally higher than the parent districts' and national averages. • Average size of the households sampled in this survey was higher than the average household size of all the parent sub-counties and districts, implying that households in the frontline communities are generally larger • 16% of the households said they owned less than a hectare of land, (43.2%) owned between one and two hectares. This indicates increasing land shortage in the area. • More female-headed households (40%) owned less than one hectare of land than male-headed households (13%) • Only 38.3% had some woodlots on their land, meaning the reliance on KKCFR for wood products is high • Land shortage increases the risk of agricultural encroachment of KKCFR.	• There is need for land management technologies to enhance land productivity and soil fertility management, e.g. use of organic manure. • Intensive livestock management should be promoted, to boost access to organic manure, as well as an income and food security measure • Economic activities with high output/unit area are important should be promoted.
Gender composition of the communities and relationship with natural resources.	• Fuelwood is the primary source of energy for cooking, and firewood and water provision is primarily women and children's work. • 74.1% said they get firewood from KKCFR and water is one of the most prized environment services communities realize from the forest.	• Households with land to spare for tree planting should be supported to plant tree, to reduce overall reliance on protected areas for wood. Conservation intervention around KKFR should promote energy saving technologies (e.g. cook stoves, biogas), to reduce the amount of fuelwood being sourced from the forest, free women's labour to other productive activities, and allow children more time to study
Demographic groups with respect to natural resource management	• The population around KKCFR are Banyankole (44.4%), Bakiga (35.8%) and Bafumbira (19.8%). • All these ethnic groups are heavily dependent on the forests for material resources and environmental services,	• The high levels of dependency of the community on the material resources and environmental services from KKCFR should be capitalized on to engage communities in responsible forest use, because they know their livelihoods depend on it.
Economic profiling and opportunities		
Wealth status, income sources, land and natural resources ownership.	• Only (12.3%) of the households were *officially* headed by females. However many more households are *defacto* female headed households because of polygamy and male migration in search of	• At the same time, conservation and development interventions need to apply affirmative action in favour of the poor households, and in particular the *dejure* and *defacto* female headed

Area of work	Summary result	Key recommendation
	economic opportunities. Such households are disadvantaged in economically and socially. • FHH tended to be poorer than male headed households (MHH), so sell labour and rely on savings groups, while male-headed households with more liquid cash can accumulate assets (livestock) and engage in business because they have capital, and the male household heads are more mobile	households in order to improve equity in access to resources and services.
Employment, employment sector, specific areas engaged in within the employment sector	• Only about 7% of the households earn income from formal employment. None of the surveyed FHH earned from formal employment. • 40% of all the sampled HH and 70% of the FHH earn income from selling casual labour, • Demand for casual labour is mainly in land cultivation (dominated by women) and forestry activities.	• There is need for empowering the poorest households who are the main sellers of casual labour to engage in activities that yield food and cash for their households so that they are not forced to sell their labour. .
Segregation of roles, responsibilities (labour) in households	• Men are predominate growing and management of cash-oriented crops (coffee, tea, bananas), and control the resultant income. • Women predominate growing of crops for household subsistence (cassava, sweet potatoes, beans, etc.), as well as weeding of cash crops. • Women are also responsible for household reproduction activities (fuelwood and water provision, childcare, cooking, cleaning) and small livestock care).	• Conservation and development interventions need to include support activities that men and women do. Income generating activities that women are able to engage in at home should be supported, because they enable them to combine production and reproductive responsibilities (e.g. piggery, poultry, and crafts). • Interventions aimed at food security enhancement should particular involve women because food provision is their responsibility.
Access to basic needs (communication, social services, energy, water etc.) a forest related economic opportunities in the areas.	• All the household sampled used fuelwood for cooking, and 74.1% use fuelwood collected from KKCFR. Only 17.3% had solar systems • Rain water harvesting is the most commonly accessed source of water among the community. Many households fetch water from inside the forest, and water is one of the highly recognized benefits from the forest. • Three quarters (74.3%) of the sampled household have access to a radio. Radios are mainly owned by men in the households. More than two thirds (69.2%) of the household have access to mobile phones.	• Conservation intervention around KKCFR need to promote energy saving technologies (e.g. cook stoves, biogas), to reduce the amount of fuelwood being sourced from the forest, free women's labour to other productive activities, and allow children more time to study. • Promotion of affordable solar systems would improve household health, contribute to the global shift towards clean energy, and create goodwill among the communities for conservation, if the benefit is clearly linked to the forest • Conservation programs should increase households access to water harvesting technologies (e.g. through subsidies) to create good will in favour of conservation • The relatively good access to radio and mobile phones should be capitalized on as media of conservation education and to enhance community participation in interventions.

Area of work	Summary result	Key recommendation
Opportunities for synergies and integration into existing sustainable development programs in the area.	• 79% of the community rear goats and 57% rear chicken • These livestock are important for production of organic manure needed for soil enhancement	• Smaller livestock are easier to maintain, and sell off, because they are easier to graze, pose lesser competition for household labour, are generally disease resistant (especially local breeds), multiply fairly quickly, can be consumed locally or easily transported to distant to markets outside the landscape. Small livestock thus present an enterprise with great potential in the landscape. for achieving improvements in livelihoods
Markets, access to markets and viability of products from the households to support income generation and wealth creation.	• Majority of the households sell one or more products or crops. Beans, bananas, coffee, cassava, Irish potatoes and maize top the list of products sold by households • About 32.1% of the household said they sold some of their products from home, and many more sell within their village. • Women mainly sell products from home, within their village or at nearby trading centres at low prices because they are less mobile due to other household responsibilities. • Men access further away, and markets that are more lucrative like Katerera, Kamwengye and Ishaka.	• There is need to improve access to markets through better road access. • Development agencies need to devise more efficient crop value chains, and post-harvest handling mechanisms to increase incomes from crop sales.
Civil Society organization and governance		
The proportion of the community in the CFM association	• 44.4% said they one or two members of their households were members of a CFM group	• To attract and retain CFM membership, additional incentives need to be part of the package. Members need to be engaged in alternative income generating activities like apiary and other sustainable land management interventions
Household (individual) membership to the CFM association	• Both men and women are active in the CFM program around KKCFR • All the members of CFM said their CFM groups include the poor • However high membership fees and corruption by CFM leaders in benefit allocation (especially land in the CFM areas) disenfranchise the poor within CFM groups • The high demand for land within the CFM areas for tree and crop growing lure the poor to "sell" off their plots because they lack capacity to plant trees	• There is need for deliberate effort to make CFM pro-poor and more inclusive. • The NU program needs to engage CFM groups to devise means of removing the barriers that limit participation of the poor in CMF. • Focus needs to be put on marginalization by fellow CFM members and making membership fees affordable • There is need to enhance the capacity of the poor to plant trees in the CFM area, as a way to increase their benefits from the program, and enhance their future incomes.
Clear understanding of the governance structure of the Associations and internal democracy	• The individualization if CFM land into "plots" has undermined cohesion of CFM groups • Lack of consideration of women for leadership positions within CFM groups was mentioned as a problem faced by women and the poor in general within CFM groups.	• As above

Area of work	Summary result	Key recommendation
	• Long distances walked during forest monitoring with the associated risk of being raped by their fellow male members is a challenges facing women. • The poor were said to be marginalized in CFM land allocation • High CFM membership fees also exclude the poor in general.	
Roles and responsibility of the member in the CFM group.	• The cited roles of CFM members included participating in forest patrols, reporting illegal activities and planting their own trees in the CFM areas allocated to them • In return the communities get access to forest resources including fuelwood and tree seedlings and seeds provided by NFA and NGOs like Nature Uganda. • The CFM members and general community complained that the rich and well-connected non-local people are prioritized over forest neighbours in allocation of the CFR grasslands for tree planting • The CFM members are concerned that they don't get a share of penalties from illegal forest users, especially loggers. • NFA on the other hand is concerned that local people are prioritizing growing of crops over tree planting in the CFM areas, and that CFM members participate in and abate illegal resource access	• To relieve pressure in KKCFR resources, the Program must creatively engage with both CFM groups and NFA in streamlining the system of allocation of CFR grasslands for tree planting. • The process of engagements should devise means of enforcing compliance to CFM regulations, and to ensure that land allocated for tree planting is used appropriately. • Lobby NFA and Government to develop guidelines for benefit sharing of proceeds from penalties of illegal activities, including confiscated timber.
The existence of any other cooperative or social activities (saving schemes)	• 80.2% of the household sampled participate in village savings and credit groups (SACCOs). • Community members participate in other multiple groups like women groups involved in selling labour jointly, tree nursery management, poultry or beekeeping. Some of these are sub-groups of CFM	• SACCOS can be capitalized on to mobilize the communities around specific causes and program activities. For example energy saving stoves and water harvesting tanks can be promoted through SACCOs. • They can also be used as communication channels
Networks and networking opportunities		
Forest resources use by minority groups (Marginalized Groups)	74.1% of the community use fuelwood collected from KKCFR Due to land shortage, majority of the community depend on CFR land for annual crop growing, especially beans, groundnuts, millet and cassava.	• Richer people who have more land should be encouraged to plant their own woodlots to reduce wood demand on the CFR • The poorer people who look to the CFR need to be supported to practice sustainable land management on their land to reduce pressure on the forest
Community participation and participation opportunities		
Identify options for community participation in resource management	• Acquisition of livestock came out strongly as an option by both men and women to improve their livelihoods and to generate manure and increase the productivity of their land. • Both men and women prioritized crop diversification are for food and economic security, as well as adoption of crops with high output	• NU needs to continue interventions started under previous projects, including apiary and other sustainable land management interventions (mushroom growing, fruit farming, etc.). Promotion of livestock as a sustainable land management intervention should also be considered.

Area of work	Summary result	Key recommendation
	per unit including passion fruits and mushroom production as interventions that can improve their household economies. Business and beekeeping were also highly prioritized by men, as options that .enable people to live off agriculture, given the acute land shortage.	
Suggest areas which can be considered incentives by communities for participation in natural resources management	• Land shortage and the need for soil fertility enhancement is a key need among the communities. At household level, both women and men identified access to improved seed/seedlings, livestock and capital as the top priorities to enable their households improve their food security and incomes. Closely related to these soil enrichment through access to manure/fertilizers and training in improved agriculture practices	• Conservation initiatives around KKCFR have to promote strategies to enable community income and food security through enhancement of crop yields through promotion of use of organic manure from crop residues and livestock waste, as well as awareness creation on other sustainable land management techniques
Come up with community priority needs	• The top community –level priorities identified by both men and women included better schools, roads, health services, clean water, support of alternative income generating activities and access to CFR for farming	• NU and other conservation and development agencies need to lobby government to improve access to basic social services in the region • NU should prioritize training on sustainable land management and improved agricultural practices
Come up with community primary challenges and hindrances to participation in NRM	The top mentioned challenges include: • Land shortage, which is linked to over-cultivation of land, poor yields, degraded soils, food shortage, and poverty. • Poor or lack of feeder roads, poor quality schools, health services in accessible distances • Lack of accessible/clean water Challenges related to KKCFR include: • Crop damage by • Remoteness and lack of social services-blamed on the existence of the forest. • Vectors that cause diseases like malaria and river blindness. • Perceived harassment by CFR staff and selective application of law enforcement against the poor and weak, • Corruption by CFM leaders, especially in allocation of group benefits was also cited.	• NU and other conservation and development agencies need to lobby government to improve access to basic social services in the region • NU should prioritize training on sustainable land management and improved agricultural practices • The CFM program needs to be reviewed, to strengthen provisions, and encourage parties to CFM agreements (NFA and CFM groups, Local Government) to fulfil their commitments. The review proves will also act as a dialogue and conflict resolution mechanisms. • In areas with severe wildlife damage, dialogue needs to be initiated between NU, NFA and the affected communities on suitable problem animal management methods.
Outline suggestions on how the communities think they can participate in averting the challenges	• Communities perceive provision of clean water, better roads and health facilities as a function of government • On their part, they identify being trained in improved agricultural methods, and forming groups to mobilize resources among themselves. The groups are also seen as mechanisms of receiving extension services.	• NU and other conservation agencies should target the already existing community groups (SACCOS, other CBOs) as media for conservation and sustainable agriculture extension messages.