CGIAR Research Program on
Climate Change, Agriculture and Food Security (CCAFS)

Village Baseline Study: Site Analysis Report for Kagera Basin – Rakai, Uganda (UG0204)

October 2012

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The tools and guidelines used for implementation of the village baseline study across all CCAFS sites, as well as the mapping outputs at a higher resolution can be accessed on our website (http://ccafs.cgiar.org/resources/baseline-surveys).

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Abstract

The village baseline study of Kyengeza village in the CCAFS site Kagera Basin – Rakai in Uganda took place from 4 to 6 July 2011. Study participants are aware that their food security depends on protecting and appropriately managing natural resources. Nonetheless, there is a general decline in the state of natural resources such as rivers, lakes and forests, and the current use of the same resources is not sustainable over time. The main drivers of such changes in the region are population growth and government policies that have privatised forests and other natural areas previously managed by the village, effectively disempowering the community.

There are more organisations operating beyond the locality than those operating in the community. The external organisations started delivering food, tools, medicines and other resources in response to HIV/AIDS. Their ability to mobilise resources, however, is undermining self-help capacity within the village, which is not conducive to sustainable rural development.

Radio and organisations are the most frequently used sources of information for agricultural decision-making. There is a relatively active information network compared to other CCAFS sites, and a fair amount of consultation with all kinds of sources of information. This may be linked to high levels of uncertainty associated with climate change and food security.

Keywords

Baseline; Uganda; village study; participatory mapping; organisations; access to information

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Introduction

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic ten-year partnership between the Consultative Group on International Agricultural Research (CGIAR) and the Earth System Science Partnership (ESSP) to help the developing world overcome the threats posed by a changing climate, to achieving food security, enhancing livelihoods and improving environmental management. In 2010, CCAFS embarked on a major baseline effort at household, village and organisation levels across its three target regions, namely East Africa, West Africa and South Asia (more information about CCAFS sites is available on our website http://ccafs.cgiar.org/where-we-work). CCAFS trained survey teams from partner organisations in the three regions to conduct the baseline.

The baseline effort consists of three components – a household survey, village study and organisational survey. The household baseline survey, a quantitative questionnaire on basic indicators of welfare, information sources, livelihood/agriculture/natural resource management strategies, needs and uses of climate and agricultural-related information and current risk management, mitigation and adaptation practices, was implemented by CCAFS partners in 35 sites (245 villages) with nearly 5,000 households in 12 countries to date. CCAFS partners are implementing village baseline studies (VBS) and organisational surveys in one out of the seven villages within each CCAFS site where the household survey was implemented. The plan is to revisit these villages in roughly 5 years, and again in 10 years, to monitor what changes have occurred since the baseline was carried out. The goal is not to attribute these changes to the program, but to be able to assess what kinds of changes have occurred and whether these changes are helping villages adapt to, and mitigate, climate change.

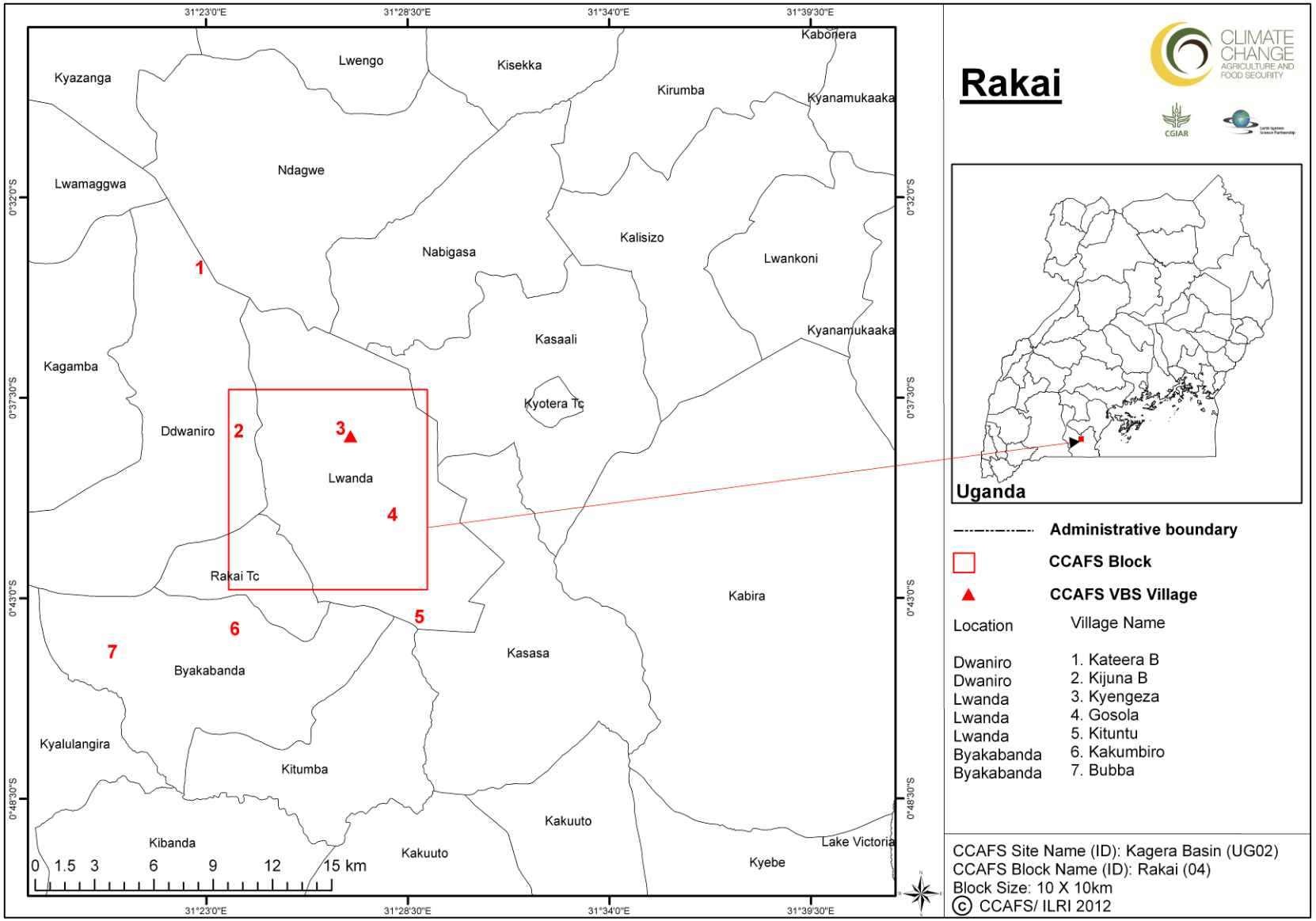
The focus of this site analysis report is the village baseline study (VBS). To date, fifteen VBS were conducted in the three CCAFS regions. The VBS aims to provide baseline information at the village level about some basic indicators of natural resource utilisation, organisational landscapes, information networks for weather and agricultural information, as well as mitigation baseline information, which can be compared across sites and monitored over time.

The objectives of the village baseline study are to:

- Provide indicators to allow us to monitor changes in these villages over time. In particular, changes that allow people to
    - Manage current climate risks,
    - Adapt to long-run climate change, and
    - Reduce/mitigate greenhouse gas emissions
- Understand the enabling environment that mediates certain practices and behaviours and creates constraints and opportunities (policies, institutions, infrastructure, information and services) for communities to respond to change
- Explore social differentiation:
    - Perceptions of women and men will be gathered separately to be able to present different gender perspectives.
    - Focus group participants will be selected to present perceptions of groups differentiated by age.

The detailed tools and guidelines used for the implementation of the village baseline study across all CCAFS sites, as well as the manuals, data and analysis reports can be accessed on our website (http://ccafs.cgiar.org/resources/baseline-surveys).

Map 1. Location of the Kyengeza village in the CCAFS site Kagera Basin – Rakai, Uganda



This report presents the results of the Village Baseline Study (VBS) conducted on 4 to 6 July 2011 in the village of Kyengeza, of the Kagera Basin – Rakai CCAFS site, Uganda (Map 1). The village geocoordinates are -0.650; 31.441. Kyengeza village was chosen for the VBS because of its relative central location in the 10 km x 10 km sampling frame. There is reasonable accessibility to the village although in the event of heavy rain the roads can be difficult to navigate.

The CCAFS survey team was composed of two facilitators, two note takers and two translators. Each pair was male and female. Consultations were made with the village authorities concerning time and place of meeting. The authorities selected the Kayayumbe Secondary School as an appropriate venue. The site team leader sent out invitations to three sets of participants who were chosen using random sampling. Each group was composed of 15 men and 15 women. Three consecutive days were selected for the survey, and on each day only one set of participants was expected to participate. The whole community was invited on the first day of the survey for an introductory session where this study was explained to them and results of the earlier household baseline survey were shared with them. After the introductory session the rest of the community was set free and only the invited group of 15 men and 15 women remained to carry on with the survey. On the third day, when the survey was completed, the whole community was again invited to attend a debriefing session.

During the three days of the study, the note-takers progressively filled in the debriefing report, recording results of discussions on which there was consensus. After completing the debriefing, the team proceeded to draft the site analysis report. Following the example of other countries, each person had a section of the report to write. This was done in a revolving manner so that each person had a chance to analyse each part of the report. The different parts of the report were then merged and the group met to fine-tune the final report.

On day one of the survey, the local team leader led a public community meeting in which he presented the three-day program to the men and women invited to participate in the study. Village authorities chose two young men and three young women, who knew how to read and write, to take photographs of landmarks in the community about which they felt proud or not. The purpose of the photographs was to create a future vision of the village. The team leader also presented the key findings of the household baseline survey that had been conducted in January 2011.

Data analysis

Topic 1: Community resources – participatory satellite imagery interpretation

Community infrastructure and resources and gender-differentiated access and utilisation of those resources have been analysed, based on a process of participatory visual interpretation of high-resolution satellite imagery (RapidEye). The aim was to create a basic understanding of existing community resources, as well as of community dynamics in relation to its environment. The participants discussed the current state of those resources, in terms of quality, access, management, history and perceived drivers of change. Another group developed an image of village resources and human well-being into 2030 to understand opportunities, constraints and aspirations for the future. The detailed approach to this exercise is outlined in the CCAFS Village Baseline Study Implementation Manual (follow the link on http://ccafs.cgiar.org/resources/baseline-surveys).

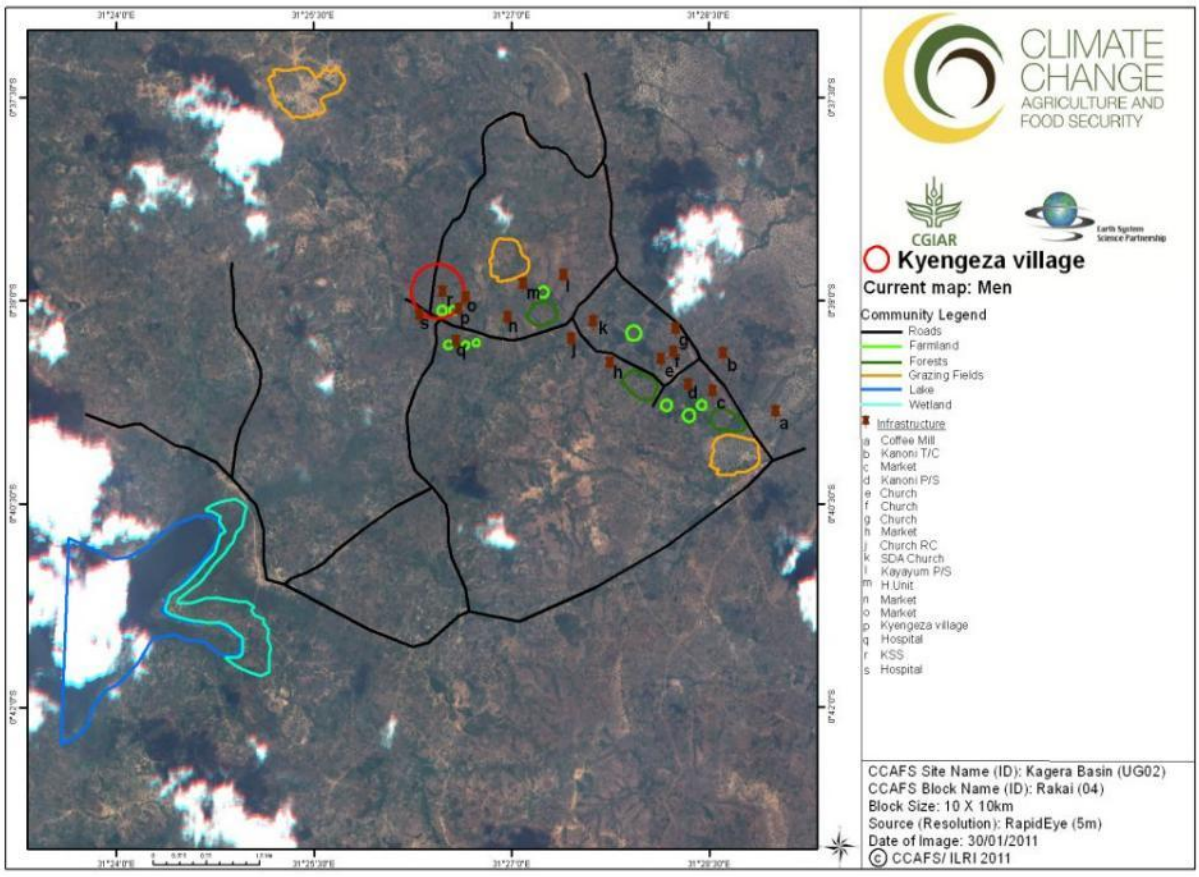
A. Current Resources

On the floor of the meeting hall where the discussions were held, the groups of men and women drew maps with the natural resources and infrastructure in the village. The maps were then transferred to flipcharts (Photo 1).

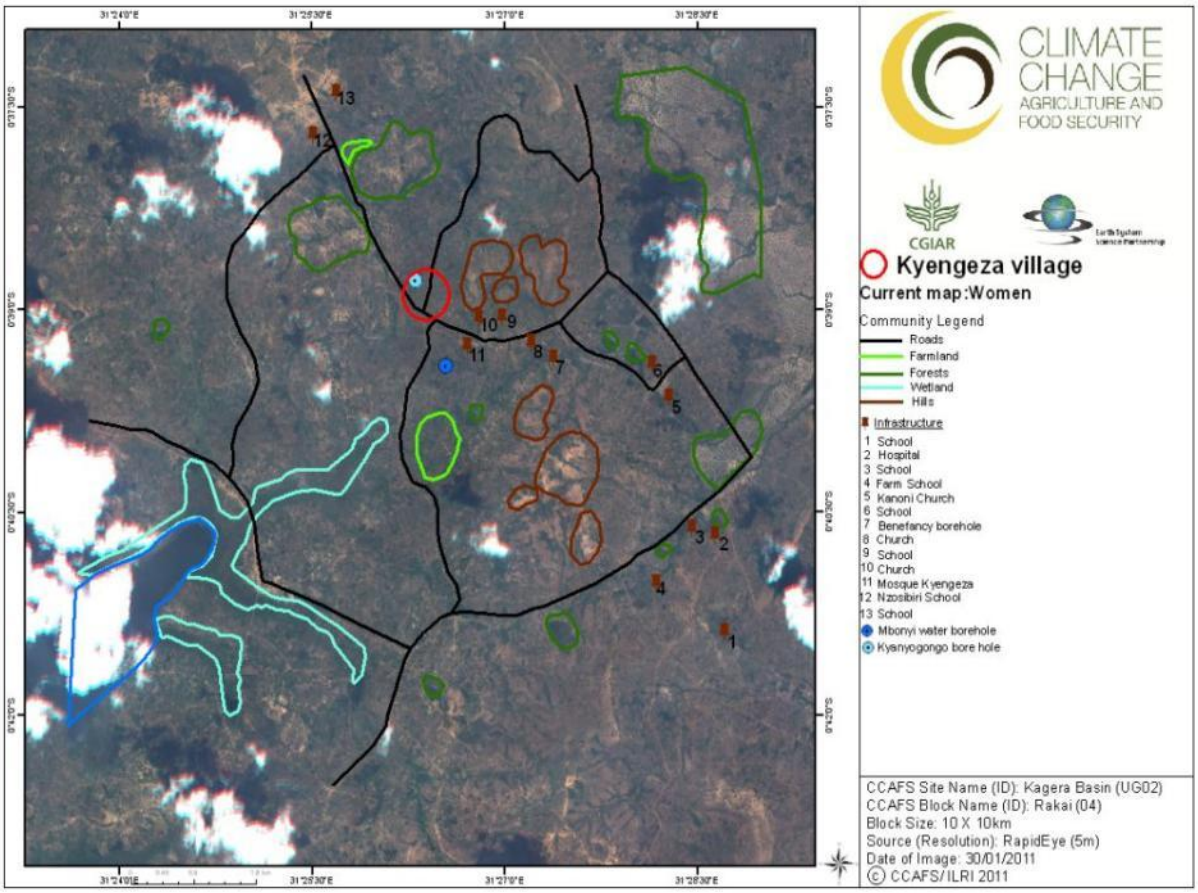
Photo 1. Current conditions mentioned by men regarding natural resources and infrastructure

The CCAFS team then showed the satellite image to the groups. Once the groups were familiar with the image, they marked on it the landmarks they had recognized and registered on the maps (Maps 2 and 3).

Map 2. Men's map of current community resources



Map 3. Women's map of current community resources



Most forests in the village are a combination of natural growth and reforestation, but there are areas covered by natural clusters of woody vegetation occurring on the flat plains that are locally named "masaka". This is the vegetation type in the cattle corridor found in the area. There are pockets of woodlots of exotic trees as well, particularly eucalyptus. The forests are used as source of wood fuel, timber, herbal medicine and charcoal.

There are private forests on individual farms, and forests that belong to the government and are on public land. The two government forests in the area are called Mpama (located at the northeast of the block) and Kanoni (in the south). The villagers used to collect firewood from these public forests in the past but today they are not allowed to. In fact, there is no free access to forests/trees because all are privately owned or managed. The government forests have been leased to individuals as part of the privatisation of public assets that is ongoing in Uganda. Given that wood fuel is the main source of domestic energy, and the need for domestic wood fuel is very serious, it is becoming a practice that as women move around they pick any dry twig that they see for later use. Furthermore, the restrictions on access to forests have led many to illegally access the forests, even at the risk of prosecution by the current managers.

There is only one small stream in the village, and it is called Kiwololo. Water from the stream is used for horticultural production. The quality of the water in the stream is generally good, but the riparian area is heavily planted with eucalyptus trees. There did not appear to be any forms of structured management of the streams. There was cultivation along the stream valleys by individuals through whose lands the stream passed. Land within the stream valleys was very fertile as a result of alluvial soils carried in by the water.

Table 1. Summary of current situation, as perceived by men (M) and women (F)

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
Forest (woodlots) (M)	Fuel wood harvesting Timber harvesting	Erineo farm	Good condition	1.5 hours on average by foot.	On individual farm. Managed by owner.	Believed to "pull" rainfall.	Fuel wood sale. Business opportunity for construction poles, timber.	Farm owner restrictions
Forest (F)	Some get firewood, charcoal	Mpama Kanoni	Forests are partially natural and partially artificial	1 hour	Owned by government but have been leased to individuals	Reduce wind speed, attract rain, raise water levels	Fetch firewood, electricity poles, medicinal herbs	Forest not accessed as it is private
River/ stream (M)	Water and farming for horticulture	Kiwololo stream	Reduced quantity of water. Generally good water quality though encroached by eucalyptus planted.	40 minutes on foot	Belongs to government though managed by gov. and community since it passes through private farms and squatter habitats who use it along its profile.	Fertility to adjacent farms	Source of water. Growing of cocoyams. Irrigation for horticulture (tomatoes, pepper, etc.). Water for sale during dry spells.	Restriction to extract water; only allowed at gazetted points of the stream.
Lake (M)	Water and fishing	Kijanebalola lake		3 hours	Owned by gov't. Managed by landing sites' committees and gov't fish guards.	Marshy lands "make rain" by maintaining clouds in area.	Fish for food. Employment for fishermen. Water pumped to taps for domestic use.	Gov't laws and policies
Lake (F)	Small fish	Kijanibalora			Government	Rainfall	Food, water, employment	
Grazing fields (M)		Grazing land of Lwanda. Kabingo grazeland.	Area is small compared to number of cattle owners. Pasture dries up fast due to drought.	2 hours by foot	Land owners manage them	Grass for mulching	Firewood for neighbours. Grass for thatching.	Limitation to access

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
Farmlands (M)	Bananas, beans, coffee, maize, cassava, tomatoes		Flourish during wet seasons	1 hour by foot	Individually owned and managed		Food. Self-employment for livelihood.	Pests, diseases, animals.
Farmland (F)		In village, some have farmlands at Rukwagos	Unfertile soil and low yield from the farm				Food, some do farming for selling	
Grasslands (M)			Not good since they are no longer green due to reduced rains and over grazing.	30 minutes on foot	Individual land owners and some by government.		Fuel wood. Grass for thatching. Cooking. Cash.	Restricted due to individual land tenure.
Grassland (F)	Buy or steal grass	Hill tops	Limited space.	40 minutes	Private land		Thatching, pasture	Not Accessible
Wetlands (M)	Horticulture, fishing, harvesting papyrus/climbers/palm leaves.	Nabwiki Bujwandi Lumbugu Lugenda Lukokoma	They are encroached into.	2 hours by foot	Owned by government and managed by NEMA	Feed water into lake. Filter water from impurities. Source of rainfall. Natural water storage.	Cultivation due to high soil fertility. Papyrus for handicrafts, climbers to make chairs, grass for thatching. Fishing for food, cash	Strict gov't laws e.g. not cultivating on banks, encroaching into wetlands
Wetland (F)			Farming next to the swamp.		Government			
Borehole (F)			Dirty during rainy season				Water for humans and animals to drink.	Dirty during rains
Water pans ("Dam") (F)		Mbonyi, Bonefece, Kanyagoya	Salty, dirty water				Water for humans and animals to drink.	Salty, dirty water

Land cover class	Community determined land use	Location Names	Current state (quality)	Time to resource	Management and ownership issues	Environmental Benefits	Opportunities	Limitations
Roads (M)		Lwanda-Kyengeza	Poor condition especially during rains. Most other roads are pot holed.		Owned by community but managed by both community and Local Council 3 (LC3).		Provides a link to main road. Transport of food to market and town centres. Used by children to access school.	Impassable by vehicles during rain. Maintenance takes long.
Tarmac road (F)		Lwanda-Rakai headquarters	Good.				Allows access to other places	
Murram road (F)		In the village	Thin, weather road				Allows access to other places	
Schools (M)	Education of children.	Kayayumbe Secondary	Good	40 minutes at most on foot			Education. Value changes. Hires guards, cooks.	
Schools (F)	Education of children.	Primary schools (5); secondary school (1)						
Trading Centres (M)		Kyikakata, Kakeeka, Kanoni, Kyengeza.	Good condition since they have basic necessities they require.	20 minutes on foot.	Owned by individuals but managed by chairman of Local Council 1 (LC1)		Markets for news, to sell and buy products.	Rules and regulations by Local Council.
Churches (M)		Church of Uganda, Roman Catholic, SDA.	Bad condition.	1.5 hours on average	RCs managed by priests. Church members manage other churches through committees.		Provides reference letters to members who seek jobs. Hires in church projects	
Coffee mill (M)			Average quality of facility. Good quality coffee though diseased	1 hour by bicycle, 30 minutes by truck.	Privately owned and managed by Evaristo and family	Coffee husks for manure to bananas	Coffee processing close by. Market for coffee	Erratic weather conditions Exploitation by middlemen

There is no public land in Kyengeza village and therefore all land-based resources are managed privately and with restricted access. All the discussion groups raised the issues of access to forests and tree products, particularly wood fuel, pasture and grass. Some land is leased to people who were not local residents and is not securely protected, and the community gets illegal access to the resources on these properties. These conditions have led to degradation of the pastureland. There is need to address alternative ways of ensuring that the community has adequate pasture and wood fuel.

There appear to be rules and regulations on the use of wetlands. Nonetheless, cultivators who clear the vegetation in order to cultivate are clearly destroying the wetlands. There is also evidence of extensive planting of the eucalyptus tree in the wetlands and the riparian area. Studies have proved that eucalyptus is a thirsty tree and not the best one to plant at a water source. The community seems to know about the effects of this tree on the water balance but cannot control its planting.

The village regulates the use and management of Lake Kijanebalola and its resources through landing site committees and government fish guards. Kijanebalola can be loosely translated as "I watched as it was formed." The lake is used as a source of water and for fishing. It has an extensive marshland area surrounding it, which is believed to "make rain" by maintaining clouds in the area.

The extensive wetlands in the block are used for horticulture, fishing, and harvesting wetland products such as papyrus, climbers, palm leaves, etc. Some of the wetlands are located in Nabwiki, Bujwandi, Lumbugu, Lugenda and Lukokoma. The wetlands are not owned by individuals but are public property managed by the government (National Environment Management Authority). The participants identified some of the benefits of the wetlands as supplying water to the lake, filtering the water before it entered the lake, attracting rain, and storing water. There are government laws that are supposed to regulate the use of the wetlands.

There are also 3 water pans or ponds in the community, which are locally called "dams." These are Mbonyi dam, Bonefece dam, and Kanyagoya dam. These water pans were dug and are maintained by the community although on private land. The ponds are a source of water for domestic use and also for watering livestock. The community manages the ponds under the leadership of the Local Council chairman. During the rainy season, the water in the ponds is very dirty. The water in Bonefece dam is salty.

The community in Kyengeza keeps livestock extensively but the pasture area is inadequate and overgrazed because of the large number of livestock. Many of the grasslands are on hilltops. The major public grazing fields are at Lwanda and Kabingo grazeland. Landowners also manage the pastures on private land. The grazing areas are also sources of thatch.

The dominant livelihood activity in the community is cultivation. Villagers own, rent or even borrow land for farming. Farms are individually owned and managed, or leased from the government. Most farmlands are within the homesteads but some people have farmlands far away (e.g. Rukwagos place). The main crops cultivated are bananas, cassava, coffee, maize, beans, and tomatoes, which are planted for both trade and domestic consumption. Kyengeza falls within the major banana-producing region. The bananas are exported to many countries of East Africa. In the recent past, however, bananas have been affected by diseases, thereby affecting the output. Crops flourish during the wet seasons but do not fare so well in the dry season. The soils are unfertile and the yields low.

The roads in the community are in poor condition. The main road, which runs from Lwanda to Kyengeza, has tarmac but is potholed. Another road, running from Lwanda to Rakai headquarters, is in good condition albeit narrow. Both the community and the Local Council 3 (LC3) manage the roads. Roads facilitate transport of food to the market and town centres and create access to other places.

There are several shopping centres in the area including Kyikakata, Kakeeka, Kanoni and Kyengeza. The shops sell basic necessities and bring goods and services closer to the community. The people do not have to travel far for basic needs. The markets/centres are outlets for farm produce but also a source of all kinds of information/news.

The schools in the block include Kanoni primary, Kayayumbe primary, Kayayumbe secondary,

Nzosibiri primary, Kyiwaguzi primary, Mbuye primary and secondary, Mbuye farm school and Kakoma secondary. The schools are in relatively good condition. Some are government-run while others are private. Education has an impact on the values and character of the children who go to school. The schools provide employment in the community by hiring guards and cooks. They also build the capacity of the community and prepare its members for professional jobs that they would otherwise not qualify for.

Churches identified in the community included the Church of Uganda (CU), Roman Catholic (RC) and Seven Day Adventists (SDA). These churches were found in Nzosibiri, Kanoni and Kayayumbe. The churches are managed through committees. They help the community by providing them with recommendation letters for employment. They also provided direct employment through church projects such as the Catholic Hospital.

The mill is owned and managed by an individual called Evaristo and his family. It is a source of coffee husks that are used as manure for bananas. The mill also provides employment and a ready market for coffee.

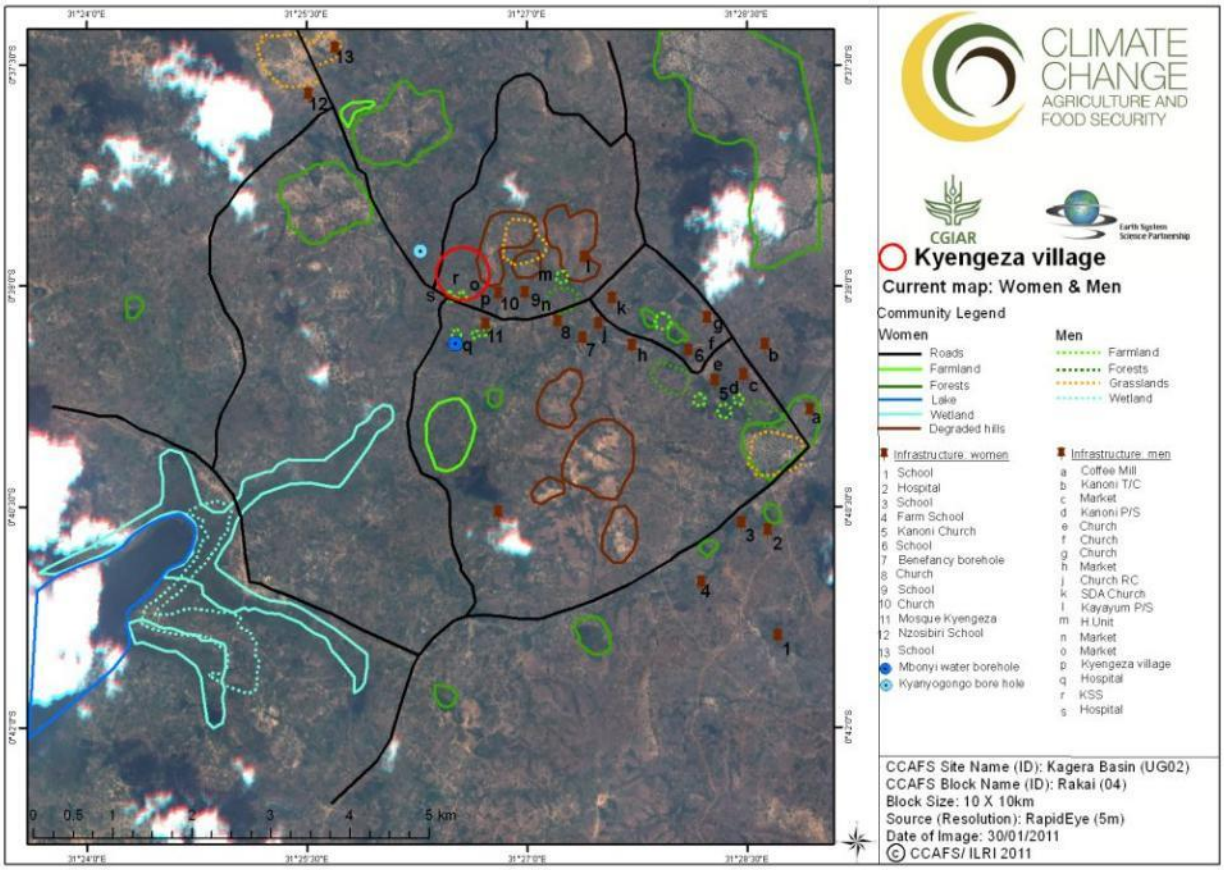
The discussion groups identified several facilities that provide the community with medical services at various places within the area. They included Mbuye, Lwanda, Kayayumbe, and Rakai. The medical services they offered included treatment, family planning services, and child health care.

The discussion group identified a mosque in Kyengeza village. It is patronised by those of the community who are part of the Islamic faith.

B. Gender-differentiated comparison of current conditions

The listing of resources was more or less exhaustive for the male and female groups, with some differences noted. The women marked roads, but the men did not. Women also identified degraded hills but the men did not include these. The men identified the coffee mill but the women did not include it in their list. The women marked boreholes that the men did not. The women identified some farmland and forested areas that the men did not. Map 4 below compares the current resources identified by male and female participants.

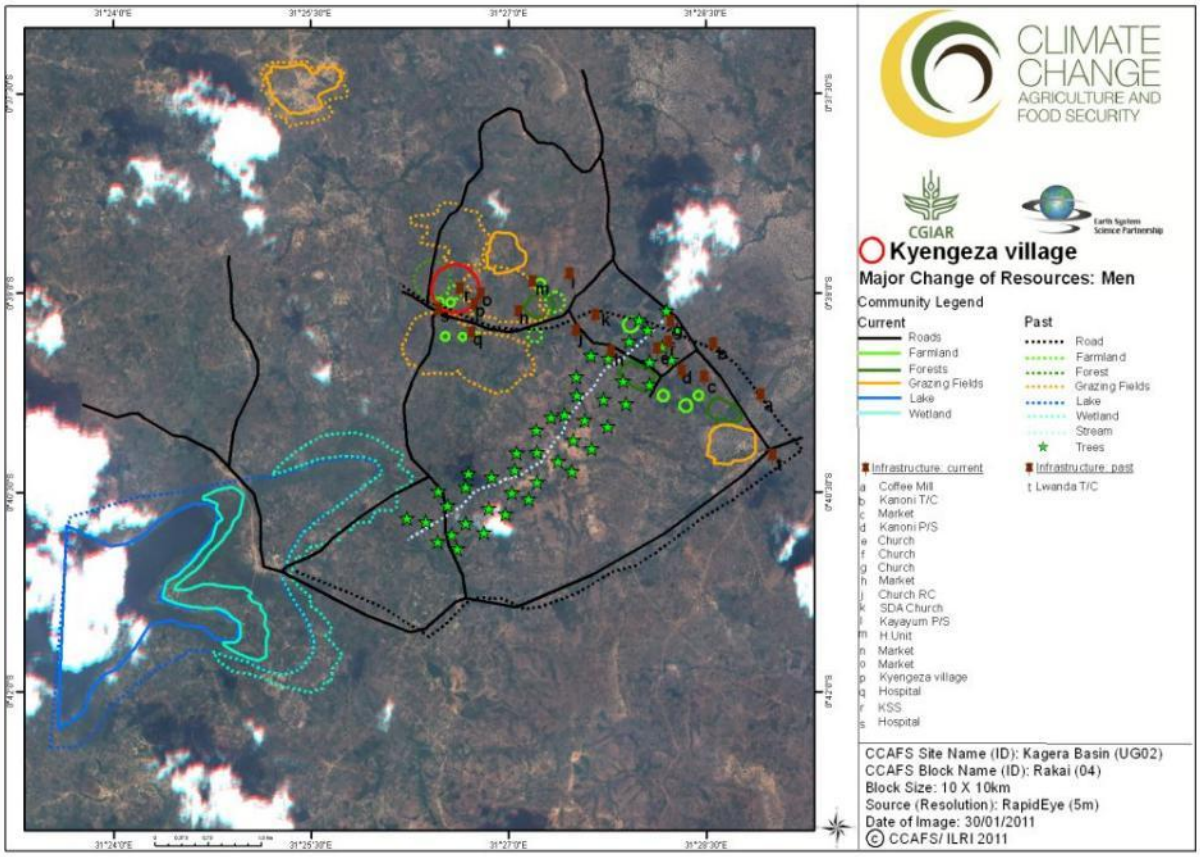
Map 4. Overlay of current conditions, comparing men's and women's maps



C. Major changes of resource conditions

Participants were asked to consider the resources they had in their community, discuss the history of land use and identify major changes that had occurred in the landscape in the past 10 years. In addition, participants were to examine how the resources got to the current condition and the major drivers of those changes; as well as the opportunities and constraints into the future. In the following pages the results of those discussions are summarized both on maps traced on top of the satellite images for the village (Maps 5 and 6), and a table that includes the major changes and drivers of change, as perceived by male and female participants (Table 2).

Map 5. Major changes in resources (comparing past and present) for men



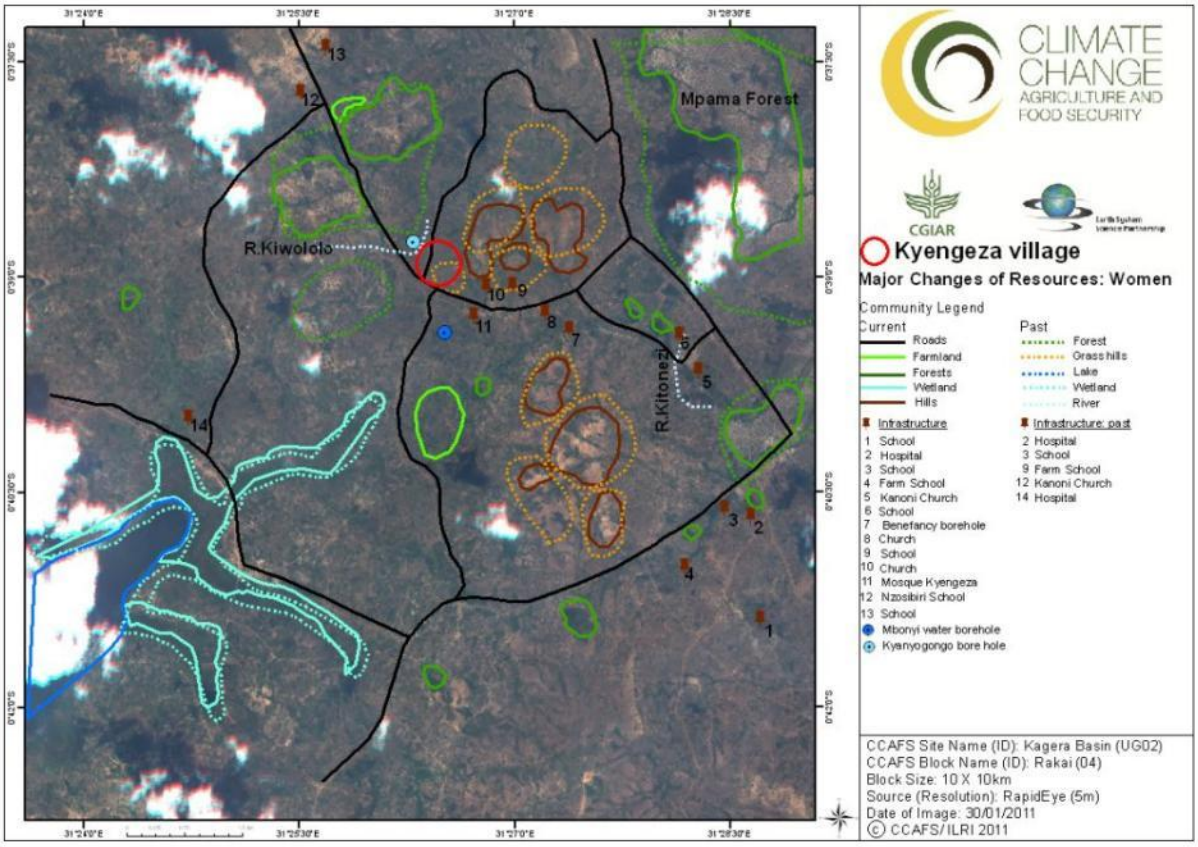
The size and quality of the lake has decreased. In the past the lake was larger and often cut off the road. Today, reduced amounts of rainfall have resulted in less water flowing into the lake. Increasing population pressure and the need for more land for cultivation has resulted in cultivation of the wetlands on the lake shores and the streams flowing into it. Population expansion has also increased the demand for fish. The lake had plenty of tilapia fish but today there is hardly any. Finally, the natural resources deterioration may be related to the current inability of villagers to enforce measures to manage those resources due to government policies. For instance, the management of the lake and its resources has changed. In the past the big landowners on whose land the landing sites were located were the main managers. Their local name was "Kamswago" (traditional leader). Today their role has largely been taken over by the government.

In the past there was a river running through the village. This has since been reduced to a wetland. Also, the wetlands were many and had plenty of water. They did not have eucalyptus trees nor crop cultivation.

Forests occupied a more extensive area and had higher tree densities. The hills, which are now bare, were forested in the past and provided forest products such as honey, timber, wildlife, herbs, etc. Today there are very few forested areas and there is no wildlife. In the past there were many forests on public land but today they have been privatized. While the forests of the past were of indigenous

trees, today most of the forests on individual land are full of exotic tree species dominated by eucalyptus. The trees improved the microclimate of the village. The forests have been affected by population increase, fire, deforestation, encroachment of human activities and the introduction of eucalyptus.

Map 6. Major changes in resources (comparing past and present) for women



In the past the grasslands were extensive and lush, with no human settlements. They provided adequate protection for the soils. Today they are degraded and expose the soils to agents of erosion.

The farms were larger in the past. The land was more fertile and produced a variety of fruits such as paw paws, passion fruits and oranges. Productivity of farmland has gone down as result of overuse and an increase in crop diseases. The farmland has been reduced by the increase in the number of homesteads.

Farmland and water are essential for agriculture. The study indicated that agricultural productivity has reduced over time therefore something needs to be done to improve it towards food security. There is an insignificant level of irrigation in the village and most farmers practice rain fed agriculture in spite of having a lake in the neighbourhood. Irrigation agriculture needs to be promoted. There is evidence of land degradation but very little evidence of conservation agriculture. This needs to be promoted as a way of increasing agricultural productivity.

Table 2. Major changes and drivers of change in the last 10 years, as perceived by men (M) and women (F)

Land cover class	Community determined land use	Location Names	Past state (quality)	Time to resource	Drivers of change	Management and ownership issues	Environmental Benefits
Lake (M)	Fishing	Kijanebalola lake	Shores increased during rainy seasons in the 70s. Lake had more water and would cut off roads. It had lots of big tilapia fish	1.5 hours	"Spirits." Reduced rainfall over time. Population growth led to deforestation.	Owned by big landowners containing landing sites. Traditional leader named Kamswago and government managed the lake.	Habitat for fish.
Stream (F)	Collect water, wash, drink.	Kitonezi	There was a river running through in the village				
Forests (M)	Firewood and pole harvest.	Kasaalu Ewa Kayondo	They were thicker, greener with fertile soils. They had wild animals.		Population growth, encroachment and introduction of eucalyptus	Mostly private though had separate owners	Windbreaks. Held clouds that brought rain.
Forests (F)	Collect firewood.	Kyengeza village	There was forest in the village.		Population increase, fire, deforestation, encroach-ment to create farmland	Private land	Attract rainfall, reduce wind speed, hold water tables.
Forests (F)	Collect firewood.	Mpama and Kanoni	Bigger in size, linked (close to each other)		Deforestation	Leased to private owner	
Markets (M)	Sell and purchase goods.	Lwanda market	Had mud edifices that were grass thatched	2 hours	Too much rain.	Owned and managed by individuals who were given space for life.	
Roads (M)		Kikakata-Kanoni-Lwanda	There were not many roads. Only murram.			Community roads, individuals managed portions. Main road was managed by central gov.	
Roads (F)		Tarmac road	This was only road.			Government	
Grazing fields (M)	Grazing		Bigger with no human settlements			Owned by landlords	
Farmland (M)			Very fertile, had paw paws, passion fruits, oranges.	30 min.	Over-use. More crop diseases.		
Farmland (F)	Growing crops	In village	Farms were larger.		Many homes.	Private.	

Land cover class	Community determined land use	Location Names	Past state (quality)	Time to resource	Drivers of change	Management and ownership issues	Environmental Benefits
Wetland (M)	Horticulture. Eucalyptus woodlots		Many wetlands. They had a lot of water.	5-10 min.	Encroachment by agriculture. Introduction of eucalyptus species.	Managed by government and individuals.	Brought rainfall (2 seasons of long rains/year). Water source
Schools (F)		Kayayumbe Nzosibiri Kanoni	These were only schoosl in community		Construction of more schools, population increase	Government	
Degraded land (F)	Fetch thatch grass, graze animals	Hills	The hills had tall grass		Over grazing, failure of rainfall	Private	

There is restricted access to forest/tree resources and yet the demand for domestic wood fuel is very great. Purchasing wood fuel is not a viable option since income levels are relatively low. On farm production of wood fuel is the best option yet there is very little evidence of this in the community. The existing farming systems do not include enough woody matter to supply household wood fuel demand. There is therefore need for action to address the issue of increasing trees on each household's landholding.

Infrastructure is important for food security because it facilitates the flow of food from areas of surplus to food deficit areas. It is important to agriculture because it facilitates movements of goods and services relevant for production. In this regard efforts should be made to ensure adequate development of infrastructure to support the agriculture sector and distribution of food.

D. Vision of the future

With a mixed group of men and women, the goal was to develop an image of village resources and human wellbeing into 2030 to understand the opportunities and constraints, as well as aspirations for the future. This exercise built upon all the work completed in the previous sessions. In addition, the exercise took into account the photographs of the landscape, including things they are proud of and things that need to be improved upon in the future, that a group of young people had produced following instructions given on day 1.

In the section below we include the map that encapsulates Kononga village's vision of the future (Map 7) that also includes a few of the photographs taken by the youth that operationalize the collective vision of the future. A summary of the most salient components that the participants want to see for their community in the future are included in Table 3.

Map 7. Future map of the community

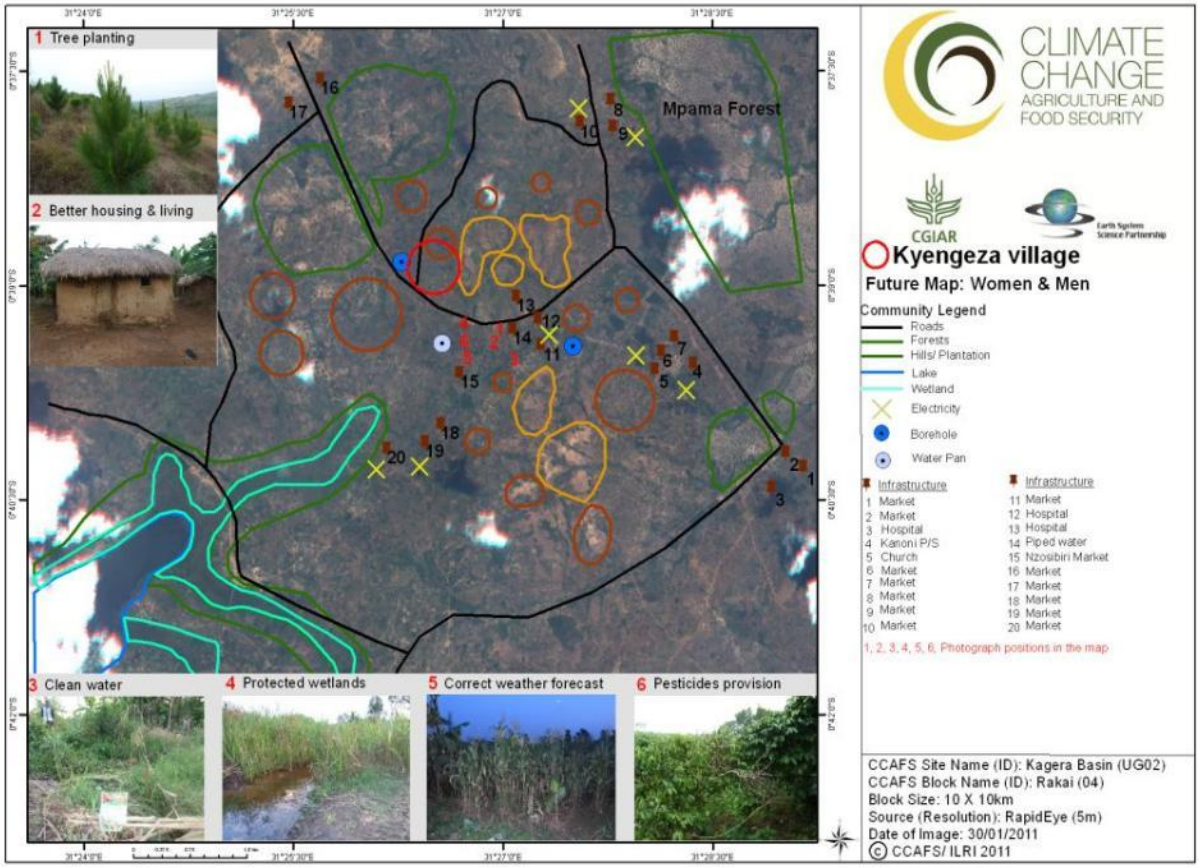


Table 3. Vision of the future

Resources	Preferred condition for 2030	Opportunities	Constraints	Organisations to be involved
Forest	Community wants forest cover to increase from where it is now	Demand for wood fuel is high and community realises importance of planting more trees. They perceive environmental benefits to having trees, linking existence of trees with increased rainfall in the area.	Forested areas are privately owned and managed, hence community has no say over what goes on in these areas. Farms are small and often used up in crop cultivation. Planting trees on farmland will therefore have to compete with cultivation	NEMA being a government agency can have some control over forested areas
Roads	Wide roads, tarmac in road Lwanda-Buyumba-Nzossibiri.	The roads will ease access to other places.		Government, community
Bare Hill	Their vision is to have trees on the hills.	Hills that are now bare were once forested and provided honey, timber, wildlife, herbs etc. Forest products improved the microclimate of village.	Land is private and community no longer has a say on what is done on it.	Government, community and the land owners
Trading Centres	Trading centres have electricity to expand opportunities.	Easy access to services, more business and employment opportunities, increased living standards.		
Health Centres	Improved services. Hospitals in places like Nzossibiri, Kiwaguzi, Kyengeza.			
Water	Taps in village. Tanks in schools to harvest rainwater. Services of DATIC (District Agric Training Info Centre) in village. Mbonyi water plant.	Clean water will reduce health hazards related to dirty water, and time women spend looking for water, which could be used for other activities. Also, long hours and distances travelled looking for water are linked to pregnancies and spread of HIV/AIDS among young girls. This will be reduced.	There are few surface water resources. Groundwater is expensive to exploit and this limits participation of smaller groups. It requires intervention of groups with ability to mobilise large financial resources.	The government
Lake/ Wetland	Water resource protected by planting trees and stopping encroaching.	There are many wetlands with resources that can be exploited.	No evidence of efforts for conservation of wetlands and their resources. Wetlands are public and open access is exposing them to mismanagement.	NEMA, water ministry, local village groups, NAADS

Topic 2: Organisational landscapes

This topic aims to show evidence of organisational capacities that help address food security and manage resources. This will inform CCAFS about how prepared the village is to respond to the

challenges envisaged as a consequence of climate change or other future challenges and to engage with CCAFS partners at a collective level.

Specifically, this section presents the different formal and informal organisations involved in the community in general terms, as well as with respect to food security in different situations (i.e. average and crisis conditions), and natural resources management (NRM). It also elaborates on what types of activities the organisations are engaged in, who their members are, whether the organisations are useful, etc.

A. Basic spheres of operation

Participants were asked to draw three large concentric circles on the ground. The inner circle would represent the community, the middle circle the locality and the outer circle beyond the locality. Participants were then asked to name organisations working in the area, whose names were written on cards, and place the cards in the appropriate circle. Thus, the group placed in the inner circle the cards of organisations that worked in the community, in the middle circle the cards of organisations operating in the locality, and in the outer circle those that operated beyond the locality. See Photo 2 for an example of the circles as populated by the participants. The results are shown in the images that follow.

Photo 2. Organisational landscape as created by community participants

Results from the survey indicate that there are many organisations working in the community. The men identified 25 organisations (Figure 1) while the women identified 16 (Figure 2). Only 8 organisations were listed in both men's and women's discussion groups.

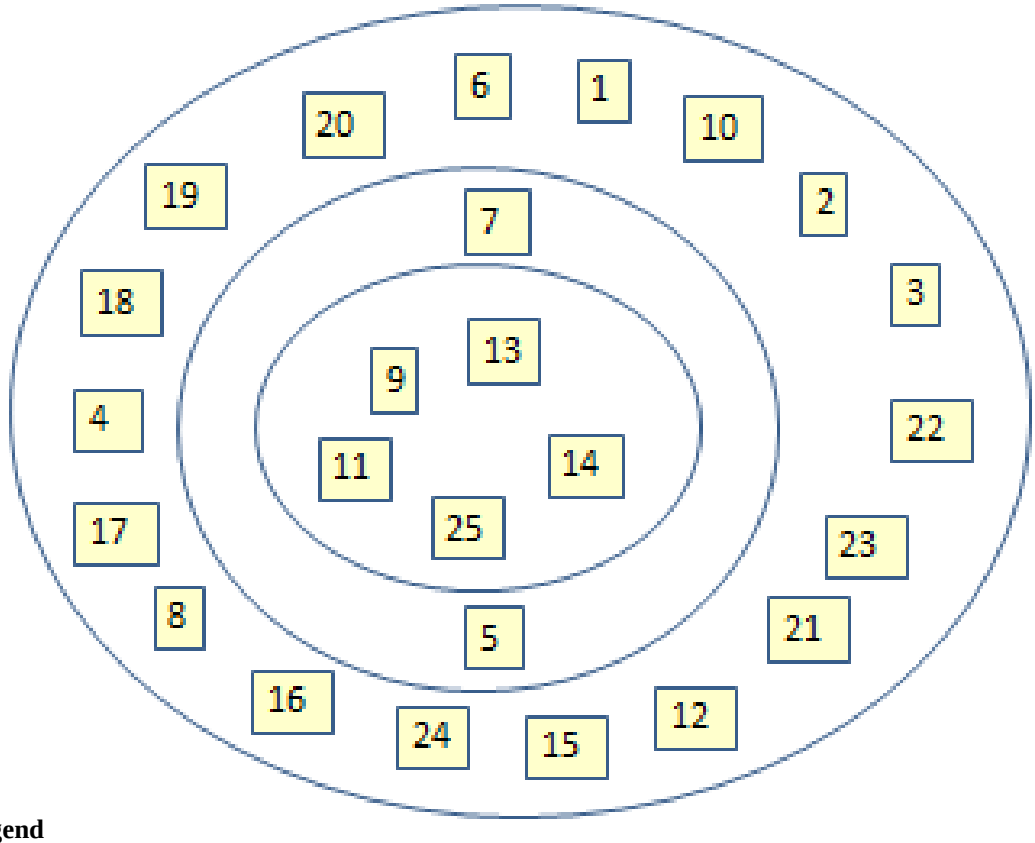
The study team used the Ugandan Local Councils (LCs) system to determine the local definition of "community," "locality" and "beyond locality." The Local Councils are the decentralized government administrative system in Uganda. LC1 is the lowest level of local government and operates at village level. LC2 works in the Parish, and it is not an active level. LC 3 works at the Sub County level, and it is the most active level of local government. The presence of local government is heavily felt at this sub-county level. LC4 is the constituency level. It exists in the structure but is not operationalized. LC5 operates at the District level and is the seat of the local authority. For the study, participants defined the "community" as LC1, and "locality" as LC5, while "beyond locality" was defined as anything beyond LC5.

The area has a history as one of the places earliest hit by HIV/AIDs. As a result many organisations moved into the area to provide help to the victims. Those organisations have contributed to improve housing, schooling and health conditions, to pay bills and otherwise support the poor. While this help was necessary in a village whose internal organisational capacity must have been ravaged by the disease, the community has developed a high dependency syndrome. This is manifested in the skewed

ratio of "community" to "beyond local" organisations. In fact, there were 8 organisations operating within the community, 5 operating within the locality and 20 organisations operating beyond the locality.

All the organisations operating within the community were informal with no registration while all the ones working beyond the locality had formal registration. The organisations engage in a wide range of activities which included welfare support to the vulnerable, educational support, water storage, construction of homes for the poor, medical support for the poor, agricultural inputs and equipment, purchase of livestock, resource mobilisation, conflict resolution, and community mobilizing. In Tables 4 and 5, more detailed information is provided on the five most important organisations as they were ranked by the men's and women's groups.

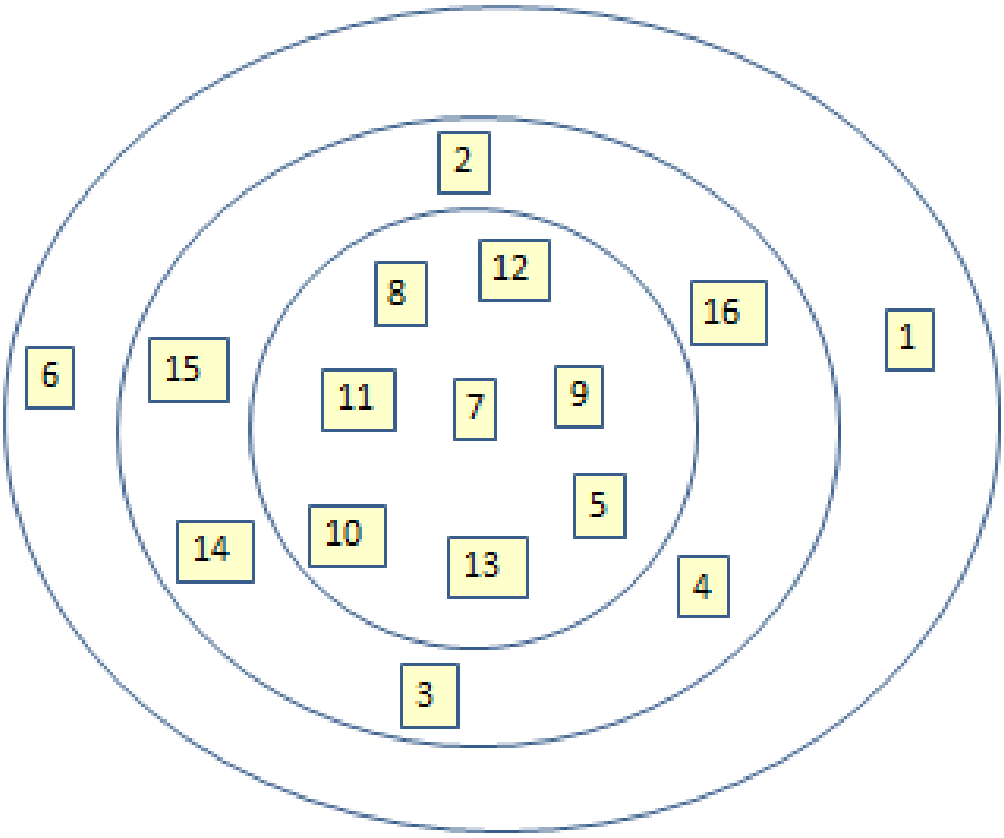
Figure 1. Organisational landscape for the men's group



Legend

1 World Vision
2 Co-oper Aid
3 Rakai Project
4 GOAL
5 Kikakata Kuyambagana
6 NAADS (National Agricultural Advisory Services)
7 CAIP (Community Action Investment Project)
8 Mission Hospital
9 Muno Mukabi
10 RACA (Rakai AIDS Counsellors Association)
11 Kyengeza Agali Awamu
12 Ugafode
13 Nkobazambogo
14 Kyengeza Twezimbe Group
15 Theta
16 CIPA (Community Initiative for Prevention of Aids)
17 Centenary Bank
18 Victoria Bank
19 Kitovu Mobile
20 NEMA (National Environmental Management Authority)
21 FINCA (Foundation for International Community Assistance)
22 MADDO (Masaka Diocesan Development Organisation)
23 Vi- Agroforestry
24 Fisheries Department, Ministry of Water and Environment
25 LC1 (Local Council 1)

Figure 2. Organisational landscape for the women's group



Legend

1 World Vision
2 RACA (Rakai AIDS Counsellors Association)
3 Co-oper Aid
4 Muno Mukabi
5 Twekembe
6 NAADS (National Agricultural Advisory Services)
7 Nezikokolima
8 Kyengeza Agali Awamu
9 Bwavupologona
10 Nkobazambogo
11 Kamukamu
12 Old Age Group
13 LC 1 (Local council)
14 LC 2 (Local council)
15 LC 3 (Local council)
16 LC 5 (Local council)

Table 4. Information on the first five organisations ranked by the men (M) and women (F)

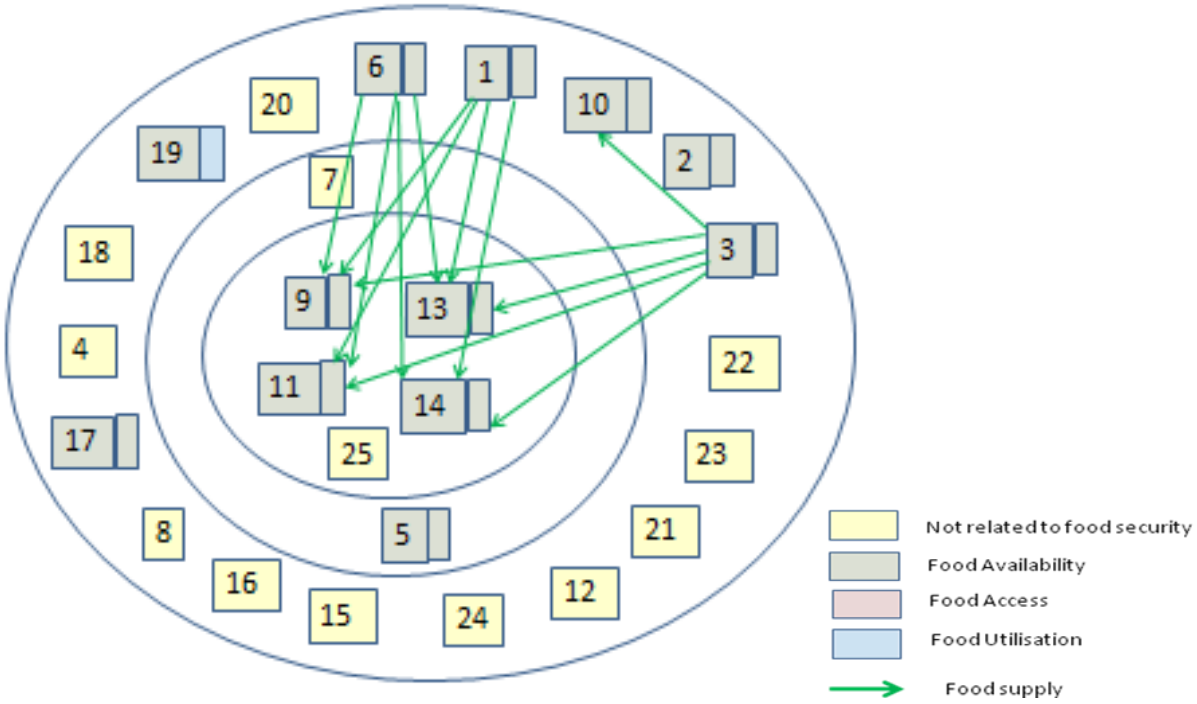
	Organisation name	Main activities	Number of members	Access (open or restricted)	Origin	Sphere of operation	Sources of funding	Existed how long	Formal or informal
1	World Vision (M)	Construct houses for orphans and schools. Provides mosquito nets. School feeding programmes, settles hospital bills for children.	More than 70% of village is covered	Open for everyone	International NGO	Beyond local	International donors	Longer (7 years)	Formal
2	Co-oper Aid (M)	House construction for poor. Land buying, school construction. Give seeds, animals, pays school fees, finances health services. Gives desks and furniture to schools. Supports professional training in hairdressing and carpentry.	More than 1200 people	Open	Indigenous	Beyond local	International donors	Longer	Formal
3	Rakai Project (M)			Restricted	Beyond local	Beyond local	External	Longer	Formal
4	GOAL (M)		34 people	Restricted	Indigenous	Local	Members and external	1-5 years	Formal
5	Kikakata Kuyambagaa Group (M)		Between 12-15 groups	Restricted for groups	Beyond local	Beyond local	External		Formal
1	World Vision (F)	Support the vulnerable school children by providing school fees, pens, books, mattress, and blankets. Donated water tanks, jericans in some homes. Build homes for the poor. Provide treatment especially to the poor. Train women on child health care.	Many	Only serve the selected individuals	NGO	Beyond local		Year 2000	Formal
2	Agalyawamu (F)	Contributes money for rearing animals and buying farm implements.	12	Mixed group. It has rules and regulations.	Community	Community	Members contribute money	Since 1996	Formal
3	Twekembe (F)	Contributes money to buy seeds from each member one at a time.	12	Men and women but young girls are restricted			Member contributions	Year 2006	Formal
4	Old Age Group (F)	Support the old by assisting them to rear animals and grow crops.	30% of people are old	Old people	State	Local	External	2011	Formal
5	Nezikoolima (F)	Contributes money for rearing animals and buying farm implements	12	Mixed group	Community	Community	Member contributions		Formal

B. Organisational landscape of food security

The goal of this exercise was to get an improved understanding of how the organisational landscape contributes to the food security of the group. Food security is mostly measured at the household level. Nonetheless, community-level organisations and interactions influence the food security of different groups within the community differently. Male and female participants were asked to discuss the concepts of food availability, access and utilization, and then review each organisation they had previously identified by asking which of them had activities that fell under these categories.

In total, over two-thirds of the groups and organisations operating in the village engaged in food security. Over 80% of those were involved in food availability activities, and about 10% each were engaged in food access and food utilization. Interestingly, 14 of the 16 organizations that women identified were working on food security (Figure 4), which may be an indicator of both the village's vulnerability and the role that women play in ensuring food security. In contrast, the men's group identified 12 organisations out of 25 as food security organisations (Figure 3).

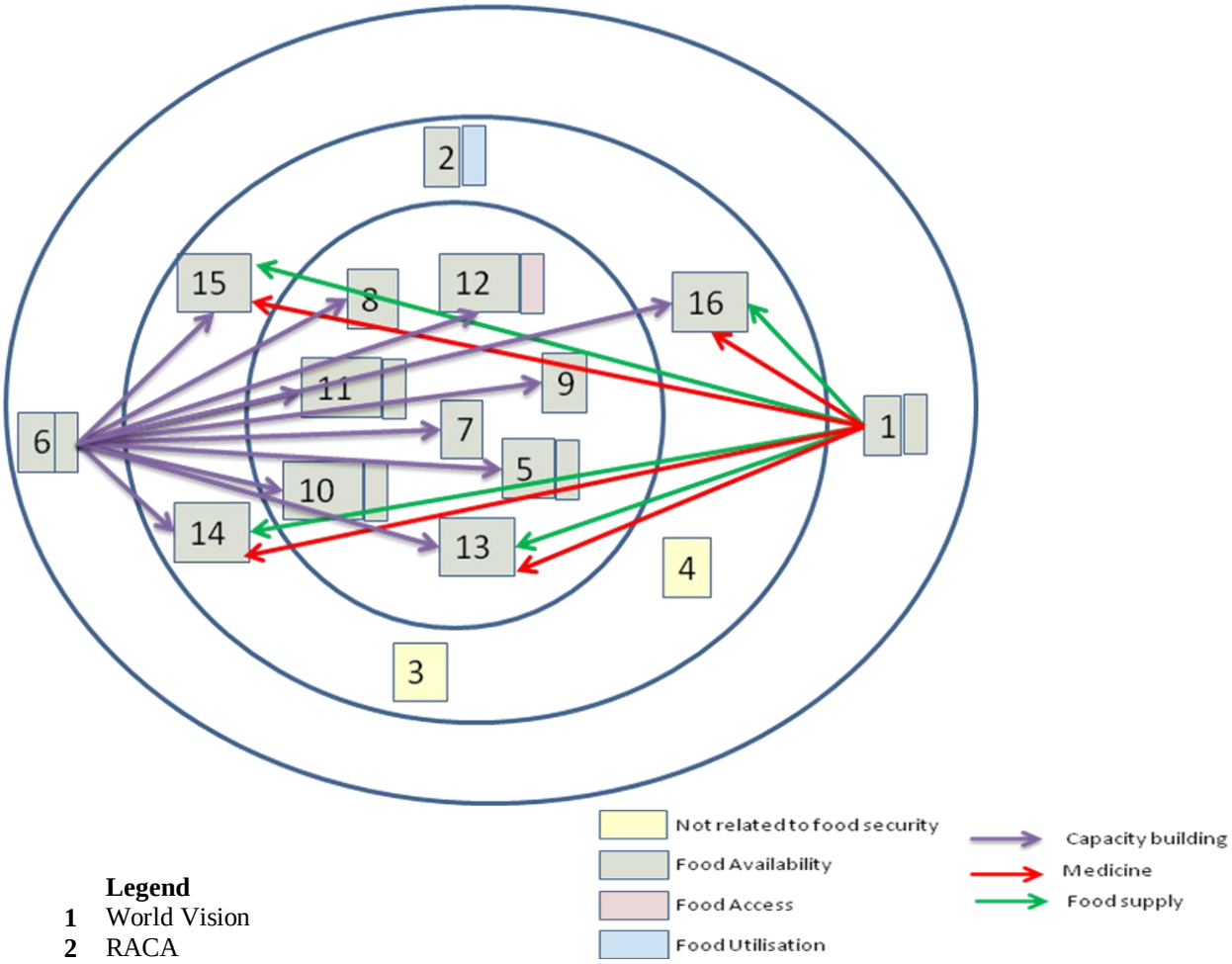
Figure 3. Organisational landscape for food security (men)



Legend

1 World Vision
2 Co-oper Aid
3 Rakai Project
4 Group GOAL
5 Kikakata Kuyambagana
6 NAADS
7 CAIP
8 Mission Hospital
9 Muno Mukabi
10 RACA
11 Kyengeza Agali Awamu
12 Ugafode
13 Nkobazambogo
14 Kyengeza Twezimbe Group
15 Theta
16 CIPA (Community Initiative for Prevention of Aids)
17 Centenary Bank
18 Victoria Bank
19 Kitovu Mobile
20 NEMA
21 FINCA
22 MADDO
23 Vi- Agroforestry
24 Fisheries Department, Ministry of Water and Environment
25 LC1 (Local Council 1)

Figure 4. Organisational landscape for food security (women)



Legend

1 World Vision
2 RACA
3 Co-oper Aid
4 Muno Mukabi
5 Twekembe
6 NAADS
7 Nezikokolima
8 Kyengeza Agali Awamu
9 Bwavupologona
10 Nkobazambogo
11 Kamukamu
12 Old Age Group
13 LC 1 (Local council)
14 LC 2 (Local council)
15 LC 3 (Local council)
16 LC 5 (Local council)

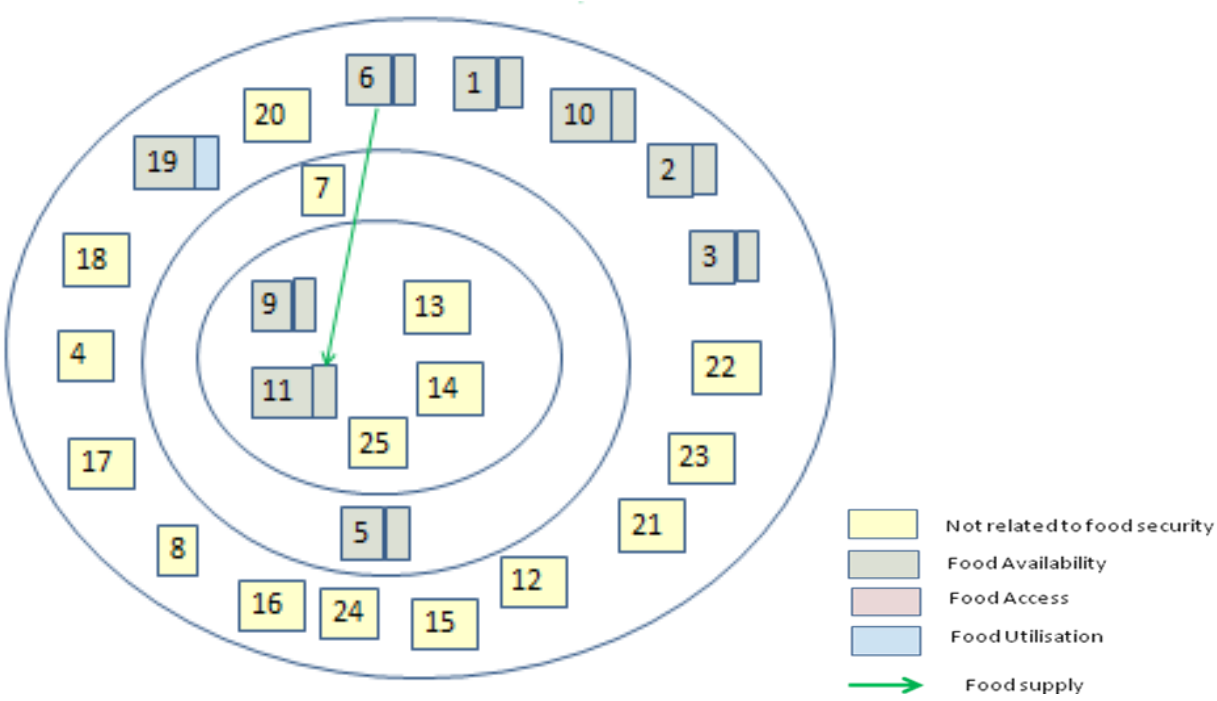
C. Organisational landscape of food crisis situations

The purpose of this exercise was to understand how organisations help people to cope in times of food crisis. Participants identified a food crisis situation that they all remembered (e.g. a bad year or the lean season), and discussed how the organisational landscape of food security operated in that situation.

The women described food crises as a time when there is drought and plants wither and die, and when matooke (plantain bananas) do not bear fruits and farmers must start buying food. The men on the other hand defined food crisis as “at the time when there is no food.”

Men identified nine organisations that were involved in addressing food crisis. Surprisingly, women identified none. During food crisis the men identified one vertical link. In general there was no significant change on the organisational landscape during times of food crisis. The ideal situation requires an increase in the level of support at times of crisis because it is assumed the communities’ food needs are greater at such times.

Figure 5. Organisational landscape for food crisis situations (men)



Legend

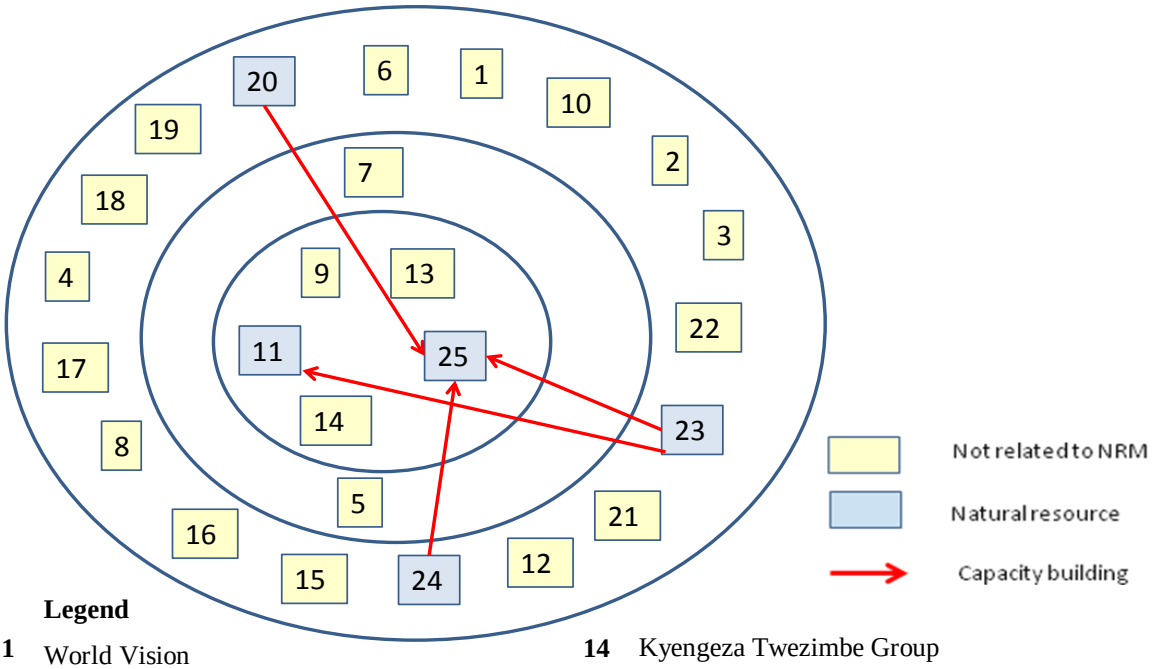
1	World Vision
2	Co-oper Aid
3	Rakai Project
4	Group GOAL
5	Kikakata Kuyambagana
6	NAADS
7	CAIP
8	Mission Hospital
9	Muno Mukabi
10	RACA
11	Kyengeza Agali Awamu
12	Ugafode
13	Nkobazambogo
14	Kyengeza Twezimbe Group
15	Theta
16	CIPA
17	Centenary Bank
18	Victoria Bank
19	Kitovu Mobile
20	NEMA
21	FINCA
22	MADDO
23	Vi- Agroforestry
24	Fisheries Department, Ministry of Water and Environment
25	LC1 (Local Council 1)

D. Organisational landscape of natural resource management (NRM)

In this section, the organisational landscape in relation to natural resource management (NRM) is discussed. Specifically, what organisations were actively working to protect the environment, manage natural resources, etc.? The process entailed asking the group to highlight what organisations are involved in the management of natural resources in the community; developing a list of natural resources important to the livelihoods of the community; and asking the group to decide on a symbol for each type of natural resource listed.

The men identified 5 organisations engaged in natural resource management, 2 of them operating within the community and 3 beyond the locality (Figure 6). The women identified 12 such groups/organisations, 6 of which operated within the community (Figure 7).

Figure 6. Organisational landscape of natural resources (men)



Legend

1 World Vision
2 Co-oper Aid
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5 Kikakata Kuyambagana
6 NAADS
7 CAIP
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10 RACA
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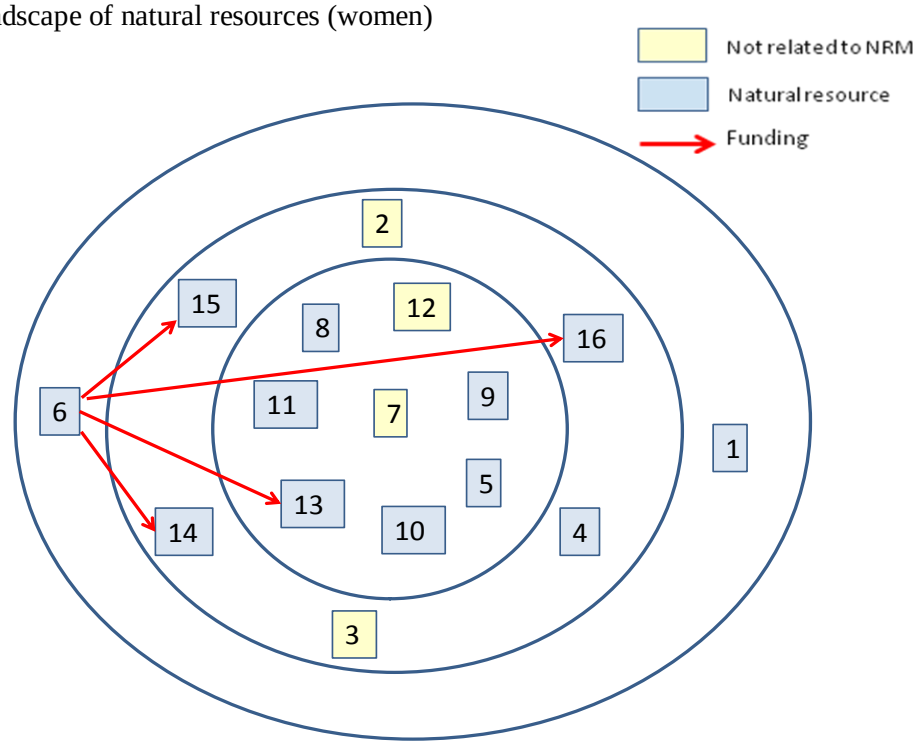
12 Ugafode
13 Nkobazambogo
14 Kyengeza Twezimbe Group
15 Theta
16 CIPA
17 Centenary Bank
18 Victoria Bank
19 Kitovu Mobile
20 NEMA
21 FINCA
22 MADDO
23 Vi Agroforestry
24 Fisheries Department
25 LC1 (Local Council 1)

Figure 7. Organisational landscape of natural resources (women)



Legend

1 World Vision
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15 LC 3 (Local council)
16 LC 5 (Local council)

In general, women were involved with very small groups that had limited capacity, and organisations that were close to the village. Women groups operated locally and had no formal registration. Their activities evolved around mobilisation of labour. On the other hand, men interacted with resources further away from the village and organisations that more resources.

Table 5 below summarizes information on all the organisations identified separately by male and female participants. The organisations are classified according to their role in supporting food availability, access and/or utilization, as well as the provision of relief in times of food crisis, and the management of natural resources.

Table 5. Information on organisations highlighted by men (unless otherwise noted, 1=yes/0=no)

Organisation name	**Sphere of operation: community (1), local (2), beyond local (3).**	**Food security**	**Food crisis**	**NRM**
World Vision	3	1	1	0
Cooper aid	3	1	0	0
Rakai Project	3	1	0	0
GOAL	2	0	0	0
Kikakata Kuyambagaa	3	1	1	0
NAADS	3	1	1	0
Vi-Agro forestry	3	0	0	1
Fisheries Dept	3	0	0	1
CAIP	3	0	0	0
Mission Hospital	3	0	0	0
RACA	3	1	1	0
Ugafode	3	0	0	0
Kyengeza Twezimbe Group	1	1	0	0
Theta	3	0	0	0
CIPA	3	0	0	0
Centenary Bank	3	1	0	0
Victoria Bank	3	0	0	0
Kitovu Mobile	3	1	0	0
NEMA	3	0	0	1
FINCA	3	0	0	0
MADDO	3	0	0	0
Munomukabi	1	1	0	0
Nkobazambogo	1	1	0	0
LC1 (Local Council 1)	1	0	0	1
Agali Awamu	1	1	1	1
		12	5	5

Table 6. Information on organisations highlighted by women (unless otherwise noted, 1=yes/0=no)

Organisation name	Sphere of operation (1), local (2), beyond local (3)	Food security	Food crisis	NRM
World Vision	3	1	0	1
Cooper aid	3	0	0	0
NAADS	3	1	0	0
RACA	3	1	0	0
Munomukabi	1	0	0	1
Nkobazambogo	1	1	0	1
LC1 (Local council 1)	1	1	0	1
LC2	2	1	0	0
LC3	2	1	0	0
LC5	3	1	0	0
Agali Awamu	1	1	0	1
Twekembe	2	1	0	1
Old Age Group	2	1	0	0
Nezikoolima	1	1	0	1
Kamu Kamu	1	1	0	1
Bwavumpologooma	1	1	0	1
		14	0	9

Organisations beyond the locality often have significant financial and technical capacity that can contribute to (or hinder) building the capacity of local groups /organisations and mobilizing community resources. As stated above, the survey identified 8 organisations that operated within the village, 5 within the locality and 20 beyond the locality. This pattern is not appropriate for driving sustainable rural development. In the ideal situation there should be more actors in the community and fewer actors within and beyond the locality, forming a pyramid-like structure. The current inverted pattern can be explained because many international organisations were drawn to the region to address the HIV and AIDs cases. It is, however, an indication that organisations operating beyond the locality have not succeeded in building local capacity in relation to collective action/group formation.

An ideal institutional landscape situation should have a mix of vertical and horizontal links in the village. Vertical links are associated with high levels of dependency where the organisation at the receiving ends is of less capacity than the one at the giving end. Horizontal links on the other hand are associated with collaborative arrangements where there is mutual take and give. In Kyengeza vertical links predominate, yet horizontal links need to be developed to improve the capacity of the network of organisations towards achieving sustainable impact. The absence of a mix of vertical and horizontal links is indicative of a capacity gap in the organisational landscape. The approach with which external organisations deliver food, tools, medicines and other resources, or finance infrastructure improvements for health or education seems to be undermining self-help capacity within the village. This is not to say that villagers are always dependent. In fact, they are well organised around subject matters over which the external organisations do not have competence or interest. There are many active actors and a high level of community participation in natural resource management, which improves the local ownership and sustainability of the interventions. At the community level Chikakata Kuyambagana is the group that brings most of the community members together.

There is potential for extensive linkages in the area but there has been no initiative towards this end. In the past, most organisations have come to the area and addressed only issues that were in line with

their project objectives without making any attempt to find out which other organisations were already operating in the area and defining the gains that could be made by linking the new and the old initiatives. Building local capacity should take into account improving the capacity of small community organisations that are already existing so that on every landscape there are a handful of local community organisations that can move the process of creating local linkages. Priority should be given to local community groups with potential to be around for a long time.

The table below provides a list of organisations that could potentially be effective CCAFS partners.

Table 7. Potential CCAFS partners

Organisation	Sphere of Operation	Activities	Strength
Rakai project	Beyond locality-Regional	Food security	Resource and community mobilisation
RACA	Beyond locality-National	Food security and human health	Resource mobilisation
NAADS	Beyond locality-National	NRM and food security	Resource mobilisation
LCs (mouthpiece of government)	Community	NRM and food security	Community mobilisation
Kyengeza twezimbe (formed by NAADS)	Community	NRM and food security	Community mobilisation
Chikakata kuyambagana (all are members)	Community	NRM and food security	Community mobilisation

Topic 3: Information networks

The aim of this exercise was to understand the diversity of options people use for accessing information on agriculture and weather, how people take advantage of sources of information available, and if some sources are not used and why. We want to describe networks of how people access and share information within the community.

Men seek information that helps them make decisions on agriculture. The types of decisions they are most concerned about include: start of rains, type of seed to plant, animal/crop diseases, market prices of farm produce, market for bananas, transport facilities (e.g. roads) for farm produce, seasonal changes/weather conditions, and drought. For their part, women seek information regarding the following decisions on agriculture: land preparation, use of fertilizers, planting, weeding, harvesting, and storage of produce.

The radio is the most used source of information. There are several radio stations such as the Kabakas radio (CBS) and the national radio station (UBS). Organisations are the second most important source of information. This is due to the existence of many international, national and regional organisations with vast capacity. NAADS is the most significant organisational source of information. The general impression one gets is that there is a relatively active information network compared to other CCAFS sites. There appears to be a fair amount of consultation with all kinds of sources of information. This may be related to high levels of uncertainty associated with climate change and food security.

Table 8. Information Networks of men and women (1=yes/0=no)

Source	**Topic (men)**					**Topic (women)**				**Total**
	Start of Season	Start of Rainfall	Type of seed	Market prices	Drought	Marketing	Weeding	Weather information	Seeds information	
Individuals										
Family	1	1	0	0	1	0	1	0	0	**4**
Friends	0	0	0	1	0	1	1	0	0	**3**
Neighbour	0	0	0	0	0	0	0	0	0	**0**
Elderly people	0	0	0	0	0	0	0	0	0	**0**
Organisations	0	0	1	1	1	1	1	0	0	**5**
Media										
Radio	0	0	0	1	1	1	1	1	1	**6**
TV	0	0	0	0	0	1	0	1	1	**3**
Newspaper	0	0	0	1	0	1	0	1	1	**4**
Other										
Observation	1	1	0	0	0	0	0	1	1	**4**
Functions/ meetings	0	0	0	0	0	0	0	0	0	**0**

Conclusion and recommendations

In Kyengeza village there is a general decline in the state of natural resources such as rivers, lakes and forests, and the current use of the same resources is not sustainable over time. Lake Kijanebalola, a source of water and fish, has extensive wetlands in its surrounding that have been encroached by human activities. The quality of the water in the streams is generally good but the riparian area is heavily planted with eucalyptus trees. Water pans are dug and maintained by the community, and are an important source of water for domestic use and also for livestock. Livestock is kept extensively but there is not adequate pasture, which has led to overgrazing. People own, rent or even borrow land for farming, the dominant livelihood activity in the community. The village falls within the major banana-producing region of western Uganda. The bananas are exported to many countries of East Africa, but in the recent past diseases have affected yields.

The community members want a future where their natural resources are better managed and their forests expanded. They plan to protect water resources by controlling encroachment and exploitation of wetland resources and planting water friendly trees in them. They want to reforest the bare hills that provided forest products (honey, timber, wildlife, herbs) and improved the microclimate of the village. The community want their roads tarmacked and made wider to enhance access to other places; to provide the trading canters with electricity to enhance local development opportunities; improved water supply and delivery of other social services. The main challenge is the high cost of developing infrastructure.

The main drivers of changes in the region are population growth and government policies. Population growth is increasing pressure to obtain higher levels of production in ever-smaller plots. At the same time, the government has embarked on a privatisation policy that has led to public land being leased to individuals. Where forests are leased out to individuals the local community are denied access to the resources especially wood fuel. The villagers used to collect firewood from these Government forests in the past. Today they are not allowed to. This presents a serious challenge to the community since wood fuel is the main sources of domestic energy. The government's privatisation of forests and other natural areas previously managed by the village has effectively disempowered the community to manage natural resources sustainably.

In general the study participants seemed to be aware of the large extent to which food security depends on protecting and managing appropriately all the natural resources. For instance, they know that cultivation of the riparian area has higher yields per unit area and thus improves food security in the community. They are also mindful of the increasingly frequent occurrence of extreme weather events such as floods due to climate change that has the potential of destroying crops in the river valley unless the riparian zone is protected. Despite this knowledge, the need for increased food production has led to extensive cultivation of swamps, and the interest in generating income has resulted in an extensive planting of eucalyptus in the wetland.

The challenge in the community, therefore, is not so much how to enhance awareness of the benefits of natural resource management but rather to what extent the village, and groups of farmers within it, can make any improvements in natural resources management if the village operates in a context of multiple limitations. The community should reforest and sustainably manage existing forest resources because it relies solely on wood fuel for domestic energy, and also because it depends on other associated environmental benefits. There is, however, limited space in the landscape for planting trees considering the importance of banana production and livestock keeping, and there are no incentives for the community to manage forests if the latter have been privatized. Hence, the tree population is decreasing and yet there are no re-afforestation efforts in the community. A changing climate is compromising further the ability to produce and sustain resources. Clearly, the options available to men and women will vary considerably from case to case. There is, therefore, a need to map land tenure in each block to enable projects to know which type of intervention can be applied to the different land tenure systems. Technology recommendations should be tailored to those specific cases.

Over the years, many international organisations have been drawn to the region to address the HIV/AIDS cases. As a result, there are more organisations operating beyond the locality than those operating in the community. The external organisations deliver food, tools, medicines and other

resources, or finance infrastructure improvements for health or education. Their ability to mobilise resources, however, seems to be undermining self-help capacity within the village. Hence, there are more vertical links than horizontal ones among the organisations. In the ideal situation there should be more actors in the community and fewer actors within and beyond the locality, forming a pyramid-like structure. The organisations operating beyond the locality, therefore, have not made a priority, let alone succeeded in building local capacity for collective action and group formation. This approach is not consistent with sustainable rural development.

This is not to say that Kyengeza villagers always rely on external organisations. In fact, they are well organised around subject matters over which the external organisations do not have competence or interest. There are many active actors and a high level of community participation in natural resource management. This enhances local responsibility over natural resources and sustainability of the interventions. In this case the question is how to support those local efforts to make them broader in the landscape and more self-sustaining.

When CCAFS considers with whom to partner and what partnership arrangements to establish in Kyengeza, therefore, it should carefully differentiate within external and local organisations rather than having a blanket approach to them. The organisations operating outside the locality tend to have more capacity to mobilise resources, whereas the local ones have capacity to mobilise the community through their labour. Local organisations work together to get money that allows them to buy food. While some external organisations have stayed in the region for a long time, others are there only for as long as they have a project. When the projects end they leave. There are external organisations that overpower the local ones, whereas some other external organisations are helping the community to build its self-help capacity. For instance, NAADS is already engaged in building the capacity of the community, RACA is mobilising resources like livestock or seeds that villagers use profitably, and the Rakai project continues to address the community's health challenges.

Resource mobilisation is an aspect of capacity building that needs to be addressed. The community groups have potential to implement many interventions but they are resource poor. The scope of their current activities can be expanded to include other activities, and much more can be achieved if they are empowered. Improving farm production is one of the most important ways to achieve this empowerment goal. More than 60% of the organisations operating in Kyengeza engage in food security issues. Improved production (higher yields but also higher stability in overall production) can contribute to improving food security in terms of food availability. At the same time, it can reduce the village's dependency on the donations from external organisations. Therefore enhancing the capacity for the village to feed itself has the potential of making an impact on the food security situation but on the empowerment of people to take control over their lives.

CCAFS may consider supporting the secondment of agricultural extension workers to the villages where it works so that they support the community. Two extension workers per block who report to the sub-county office--soil and water and forest resources would be adequate. The workers could promote commercialisation of agriculture for farmers to earn more money and be able to purchase food during periods of scarcity. They could also address diversification of crops and improve uptake of agroforestry technology because this will address both food security and wood fuel issues.

CCAFS can also support capacity building to enable farmer groups to transport and market their produce to get the best price and do away with the middleman. Along those lines, CCAFS in partnership with relevant stakeholders could harness research on ways of preserving matooke. There is a marked dependence on matooke but it is quite perishable. Support for matooke would serve both food security and income generation goals, and would also fit well with the Presidential Initiative on Banana.

Table 9 provides a summary of gaps in knowledge or current constraints that could help identify opportunities and niches for CCAFS and its partners.

Table 9. Major opportunities for research, action research and development intervention for CCAFS and its partners

Gaps in knowledge and current constraints	Opportunities for research (CCAFS)	Opportunities for action research (CCAFS partners)	Development Interventions (Development partners)
Land tenure map	X		
Extend of forest on private land	X		
Marketing of produce		X	X
Value addition of agriculture crops	X	X	X
Poor wetland management	X	X	X
Water development initiatives			X
Mono cropping of banana	X	X	X
Overdependence on banana	X	X	X
Dependency syndrome		X	X
Poor condition of road network			X
Livestock management		X	X