CCAFS EAST AFRICA

Site: Kagera Basin/Rakai, Uganda

CGIAR

RESEARCH PROGRAM ON
Climate Change, Agriculture and Food Security

CCAFS

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CCAFS Baseline Indicators for Kagera Basin/Rakai in Uganda, East Africa

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Content

Introduction

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership of CGIAR and Future Earth led by the International Center for Tropical Agriculture (CIAT). CCAFS brings together the world's best researchers in agricultural science, development research, climate science and Earth System science to identify and address the most important interactions, synergies and trade-offs between climate change, agriculture and food security.

CCAFS is focusing its research for development efforts in five regions, East and West Africa, South and Southeast Asia as well as Latin America, working in 25 research sites. The regions represent areas that are particularly vulnerable to climate change, and the sites are focal locations to generate knowledge and learning that can be applied and adapted to other regions worldwide.

Extensive baselines have been implemented at all CCAFS sites and consist of analysed information collected at three levels: households, communities and organisations. The baselines capture the big picture of how farmers are changing their practices in light of climate change and other pressures. The aim is to revisit the same communities and households in five and again in ten years to document changes in livelihoods, resource management practices and other factors over time and update these indicator documents accordingly. The CCAFS baseline is a key component of the program's monitoring and evaluation system.

This document series compiles key indicators from the three levels of the baseline for each site. Indicators include: demography and basic site characteristics of each site, rainfall distribution, changes in farming practices and land management, income sources, food security and food sources, asset ownership by households and involvement in organisations and more.

This CCAFS baseline indicator document was developed for the CCAFS site at Kagera Basin/Rakai, in Uganda.

The baseline indicator series is complemented by CCAFS site atlases, that include site maps with climate information, biophysical characteristics and socio-economic factors. Site maps are available at: www.ccafs.cgiar.org/atlas-ccafs-sites

Download the baseline tools, data and reports:
www.cafs.cgiar.org/resources/baseline-surveys

Get in touch:
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Sources

Throughout this document the sources of data for the indicators are colour coded as follows:

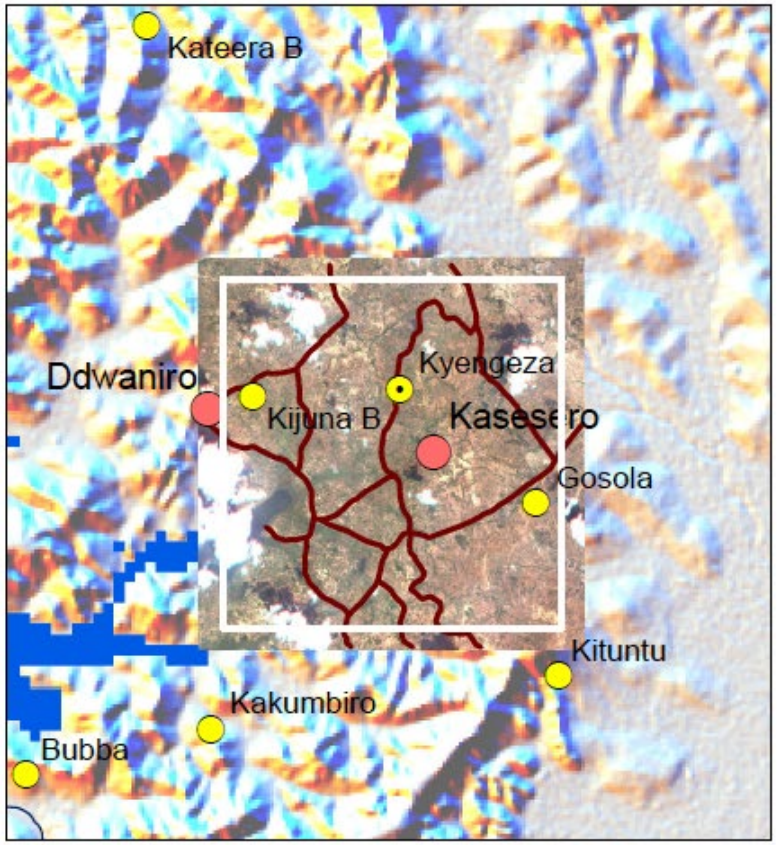
CCAFS Household baseline study | CCAFS Village baseline study | CCAFS Organisational baseline study

Map

Country: Uganda

Site location

CCAFS Sampling Frame: Kagera Basin - Rakai



CCAFS Site Name: (ID): Kagera Basin (UG02)

CCAFS Sampling Frame Name (ID): Rakai (04)

Settlement

CCAFS VBS / OBS Village

CCAFS HBS Village

Coordinates of the CCAFS Sampling frame

31.484E 0.621S
31.484E 0.713S
31.394E 0.713S
31.394E 0.621S

SourceL Förch W et al. 2013. Core Sites in the CCAFS Regions: East Africa, West Africa and South Asia, Version 3. Copenhagen: Denmark. CCAFS

Demography and basic site characteristics

	Baseline	Mid-term	Final
Ratio of women headed households	19%		

% households of different sizes

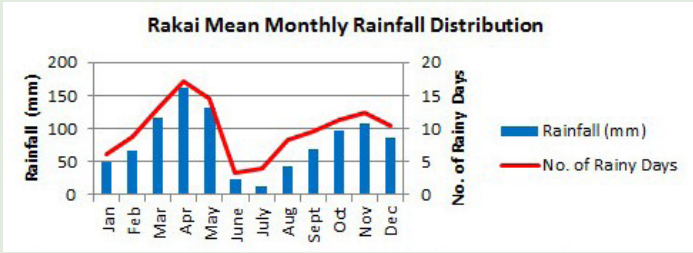
Number of people in the household	Baseline	Mid-term	Final
1	4%		
2	7%		
3	7%		
4	12%		
5	11%		
6	14%		
6+	44%		

Area of land cultivated (ha)*	141.63		
Average (mean) per household (ha)	1.01		

Highest level of education obtained by any household member

No formal education	1%		
Primary	48%		
Secondary	41%		
Post-secondary	9%		

*Area of land cultivated (ha) is the total amount of owned or rented land used for growing food or aquaculture



Source: MarkSim[1]

Ratio of local organisations to total number of organisations named*

	Baseline	Mid-term	Final
Men's group	5/25		
Women's group	8/16		

** Organisations have been recoded by CCAFS researchers from original data (participant perceptions of community, local and beyond local) to categories of local and external.*

[1]Source: Jones P G, Thornton P K, Diaz W and Wilkens P W. 2002. MarkSim, a computer tool that generates simulated weather data for crop modeling and risk assessment. Version 1, 2002. CD-ROM and Users Manual. CIAT, AA6713, Cali, Colombia, 87 pp.

Changes in farming practices and drivers of changes in resources

% households introducing 3 changes or more		Baseline	Mid-term	Final
	Crop	51%		
	Water	1%		
	Soil	24%		
	Tree/agroforestry	94%		
	Livestock	39%		

Adaptation

% households reporting changes to their agricultural pratices				
	0-1 change	2%		
	2-10 changes	31%		
	11 or more changes	67%		

Mitigation

% households doing				
Tree management*	Yes	94%		
	No	6%		
Soil management	None	41%		
	Some	59%		
Intensification	None	9%		
	Low	74%		
	High	17%		
Productivity	No Increase	1%		
	Some increase	99%		

Drivers of changes to crop production and land management		Baseline	Mid-term	Final
% households reporting this driver	Markets	99%		
	Weather/climate	98%		
	Pest and Diseases	99%		
	Labour	97%		
	Land	99%		
	Projects	96%		

Drivers of changes to livestock production*				
% households reporting this driver	Markets	97%		
	Weather/climate	93%		
	Pest and Diseases	96%		
	Labour	95%		
	Projects	95%		

Drivers of change in the community

	Men			Women		
Frequency with which they were mentioned in group discussions	Baseline	Mid-term	Final	Baseline	Mid-term	Final
Population Growth	2			3		
Deforestation	1			2		
Pest and Diseases	1			0		
Information/Knowledge	0			0		
Land Demarcation/fragmentation	0			0		
Soil degradation/Erosion	0			0		
Rainfall Changes	2			1		
Charcoal Burning/Fuel	0			0		
Government	0			0		
Forest Fire/Bush burning	0			1		
Overuse	1			1		
Spiritual/Cultural/Religious	1			0		
Invasive tree species	2			0		
Increase in wealth	0			0		
Increase in livestock	0			0		
Social/Community conflicts	0			0		
Infrastructure	0			1		

*For tree/agroforestry changes these are the households who have either planted or protected trees within the last year

*For livestock changes these are the households who have made 3 of more of the changes in the livestock section

Livelihood diversification

	Baseline	Mid-term	Final
Source of Cash Income other than own farm			
Employment on someone else's farm	41%		
Other off-farm employment	41%		
Business	40%		
Remittances/gifts	37%		
Payments for environmental services	1%		
Payments from government or other projects/programs	14%		
Loan or credit from a formal institution	16%		
Informal loan or credit	28%		
Renting out farm machinery	6%		
Renting out your own land	9%		
No off-farm cash source	11%		
Product diversification			
% of households			
1-4 products (low)	14%		
5-8 products (intermediate)	59%		
9 or more products (high)	27%		
Selling/Commercialization Diversification:			
% of households			
No products sold	7%		
1-2 products sold (low)	28%		
3-5 products sold (intermediate)	45%		
6 or more products sold (high)	20%		

Food security

Food Security Index

% households	Baseline	Mid-term	Final
More than 6 hunger months/year	10%		
5-6 hunger months/	25%		
3-4 hunger months/	39%		
1-2 hunger months/	15%		
Food all year round/No hungry period	10%		

Food security organisational linkages

Men groups

Organisation receives	Baseline	Mid-term	Final
Funding	0		
Capacity Building	0		
Food	5		
Organisation provides			
Funding	0		
Capacity Building	0		
Food	3		

Women groups

Organisation receives	Baseline	Mid-term	Final
Funding	0		
Capacity Building	11		
Food	4		
Organisation provides			
Funding	0		
Capacity Building	1		
Food	1		

Source of food during highest and lowest shortage months	Baseline	Mid-term	Final
% households mainly consuming from own farm in the month of highest shortage	31%		
% households mainly consuming from own farm in the month of lowest shortage	83%		

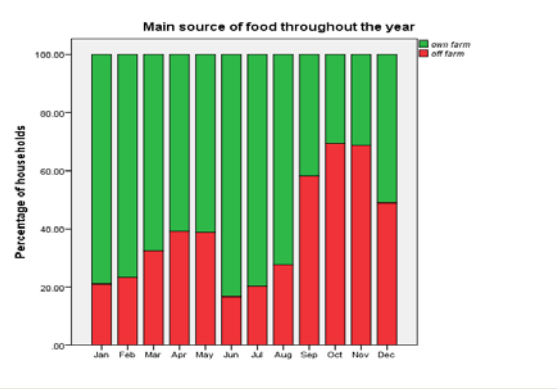
Ratio of local organisations to total number of organisations named in each area of food security work*

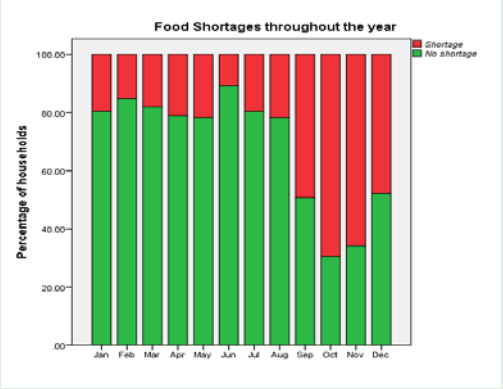
Men's group	Baseline	Mid-term	Final
Availability	5/12		
Access	0/0		
Utilisation	0/1		

Women's group	Baseline	Mid-term	Final
Availability	7/14		
Access	0/1		
Utilisation	0/1		

** Organisations have been recoded by CCAFS researchers from original data (participant perceptions of community, local and beyond local) to categories of local and external.*

These charts are taken from the Household Baseline Survey - Food Security Section





Collective action in natural resource management (NRM)

Resource	Gender	Discussed	Baseline	Mid-term	Final
Is there an issue with the resource?					
Irrigation	M	Yes	limited quantity of water in rivers.		
	F	Yes	boreholes, dirty during dry season. Dams, salty dirty water		
Farmland	M	Yes	Pests and deseases		
	F	Yes	unfertile soil, low yields		
Forest	M	Yes	no issues, good condition		
	F	Yes	Partially natural partially artificial		
Pasture	M	Yes	Area small, many owners, overused, small rainfall, no good anymore		
	F	Yes	limited space		
Markets	M	No			
	F	No			
Is there a problem of access to the resource?					
Irrigation	M	Yes	restriction to extract watre in rivers		
	F	No			
Farmland	M	Yes	Owned and managed individually		
	F	No			
Forest	M	Yes	Owned and managed individually		
	F	Yes	Owned by government, leased to individuals. Limitations to acces due to private ownership		
Pasture	M	Yes	Limitation to access. Managed individually		
	F	Yes	Private land, not accessible		
Markets	M	Yes	Ownel individualyy by managed by chairman of local council		
	F	No			
Is there any local action in place to address the problem?					
Irrigation	M	No			
	F	No			
Farmland	M	No			
	F	No			
Forest	M	No			
	F	No			
Pasture	M	No			
	F	No			
Markets	M	No			
	F	No			

Membership of organisations and organisational agendas

% households with at least one member belonging to organised groups

	Baseline	Mid-term	Final
Tree nursery/tree planting	7%		
Water catchment/management	6%		
Soil improvement related	7%		
Crop improvement related	6%		
Irrigation	2%		
Savings/credit related	21%		
Agricultural product marketing	7%		
Agricultural productivity enhancement related	15%		
Seed production	5%		
Vegetable production	7%		
Other group not mentioned above?	4%		
No groups	64%		

Ratio of local organisations involved in Natural Resource Management to total number of organisations involved in NRM*

	Baseline	Mid-term	Final
Men's group	1/5		
Women's group	6/12		

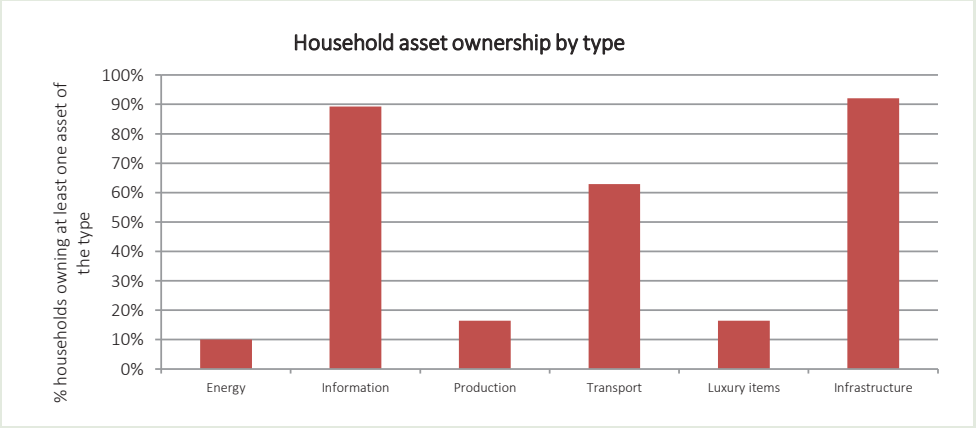
** Organisations have been recoded by CCAFS researchers from original data (participant perceptions of community, local and beyond local) to categories of local and external.*

Household assets

% household with assets by type	Baseline	Mid-term	Final
Basic level	10%		
Intermediate level	59%		
High level	31%		

% households ownership			
Transport			
Bicycle	61%		
Motorcycle	16%		
Car or Truck	1%		
Production			
Tractor	1%		
Mechanical Plough	0%		
Mill	0%		
Water pump/Treadle pump	15%		
Thresher	0%		
Boat	1%		
Fishing Nets	2%		
Energy			
Solar Panel	6%		
Generator	1%		
Battery	6%		
Biogas Digester	1%		
LPG	0%		
Information			
Radio	85%		
Television	5%		
Cell Phone	54%		
Computer	1%		
Internet Access	0%		
Luxury			
Refrigerator	2%		
Air Conditioning	0%		
Electric Fan	2%		
Bank Account	16%		

Infrastructure	Baseline	Mid-term	Final
Improved storage facility for crops	12%		
Water storage tank	9%		
Well/borehole	4%		
Running/tap water in dwelling	1%		
Electricity from a grid	3%		
Improved housing	61%		
Improved roofing	89%		
Separate housing for farm animals	30%		



Networks of information

Networks of information - Men Group			
	Baseline	Mid-term	Final
Start of season			
Family	Yes		
Friends	No		
Neighbours	No		
Elderly people	No		
Organisations	No		
Radio	No		
TV	No		
Newspaper	No		
Personal observation	Yes		
Functions/Meetings	No		

Networks of information - Men Group			
	Baseline	Mid-term	Final
Start of rainfall			
Family	Yes		
Friends	No		
Neighbours	No		
Elderly people	No		
Organisations	No		
Radio	No		
TV	No		
Newspaper	No		
Personal observation	Yes		
Functions/Meetings	No		

Networks of information - Men Group			
	Baseline	Mid-term	Final
Type of seed			
Family	No		
Friends	No		
Neighbours	No		
Elderly people	No		
Organisations	Yes		
Radio	No		
TV	No		
Newspaper	No		
Personal observation	No		
Functions/Meetings	No		

Networks of information - Men Group			
	Baseline	Mid-term	Final
Market prices			
Family	No		
Friends	Yes		
Neighbours	No		
Elderly people	No		
Organisations	Yes		
Radio	Yes		
TV	No		
Newspaper	Yes		
Personal observation	No		
Functions/Meetings	No		

Networks of information - Men Group			
	Baseline	Mid-term	Final
Drought			
Family	Yes		
Friends	No		
Neighbours	No		
Elderly people	No		
Organisations	Yes		
Radio	Yes		
TV	No		
Newspaper	No		
Personal observation	No		
Functions/Meetings	No		

Networks of information

Networks of information - Women Group			
Marketing	Baseline	Mid-term	Final
Family	No		
Friends	Yes		
Neighbours	No		
Elderly people	No		
Organisations	Yes		
Radio	Yes		
TV	Yes		
Newspaper	Yes		
Personal observation	No		
Functions/Meetings	No		

Networks of information - Women Group			
Weeding	Baseline	Mid-term	Final
Family	Yes		
Friends	Yes		
Neighbours	No		
Elderly people	No		
Organisations	Yes		
Radio	Yes		
TV	No		
Newspaper	No		
Personal observation	No		
Functions/Meetings	No		

Networks of information - Women Group			
Weather information	Baseline	Mid-term	Final
Family	No		
Friends	No		
Neighbours	No		
Elderly people	No		
Organisations	No		
Radio	Yes		
TV	Yes		
Newspaper	Yes		
Personal observation	Yes		
Functions/Meetings	No		

Networks of information - Women Group			
Seeds information	Baseline	Mid-term	Final
Family	No		
Friends	No		
Neighbours	No		
Elderly people	No		
Organisations	No		
Radio	Yes		
TV	Yes		
Newspaper	Yes		
Personal observation	Yes		
Functions/Meetings	No		

Networks of information

% of households receiving weather-related information	Baseline	Mid-term	Final
Start of the rains	80%		
Forecast of extreme events	79%		
Forecase of pest or disease outbreak	63%		
2-3 month weather forecast	51%		
2-3 day weather forecast	32%		

Of households receiving information, who in the family receives it	Baseline	Mid-term	Final
Start of the rains			
Men	32%		
Women	22%		
Both	46%		
Forecast of extreme events			
Men	34%		
Women	20%		
Both	46%		
2-3 month weather forecast			
Men	32%		
Women	16%		
Both	52%		
2-3 day weather forecast			
Men	20%		
Women	13%		
Both	67%		
Forecast of pest or disease outbreak			
Men	30%		
Women	19%		
Both	51%		

Organisational priorities

Relative importance in the portfolio of organisations placed on climate or weather related activities

		Baseline	Mid-term	Final
Allocation of time				
	Very high	8%		
	High	8%		
	Medium	17%		
	Low	50%		
	None	17%		
Allocation of staff				
	Very high	8%		
	High	0%		
	Medium	8%		
	Low	42%		
	None	42%		
Allocation of budget				
	Very high	0%		
	High	0%		
	Medium	8%		
	Low	50%		
	None	25%		

Organisational priorities

Match of organisational activities to perceived needs of communities			
	Organisation activities		
Community issues about natural resources and infrastructure	Baseline	Mid-term	Final
Forest: Partially natural, partially artificial. Not accassible to non owners.	Promotion of environmental conservation; tree planting, discouraging de-forestation and bush burning; tree planting, tree nursery, provide tree seedlings; promotion of agroforestry		
River/stream: Reduced quantity of water. Restriction to extract water, only allowed at gazetted points of the stream	Promotion of water conservation.		
Lake:			
Grasslands: limited space, bad quality due to lack of rain and overgrazing. Private land difficult to access	Promotion of planting fodder crops; Discourage bush burning and grazing; leaf Wetland conservation		
Farmland: unfertile soil and low yields. Pests, deseases, animals.	Promotion of sustainable farming practices, soil and water conservation; training on sustainable agricultural methods, promotion of organic pest control and manure management and farming drought resistant crops; promotion of diversified farming, improved farming inputs and planting times, improved post harvest handling; encourage the planting of fruit trees		
Wetland: they are encroached into.	Sensitise the community on wetland friendly activities, give advice on wetland appropriate tree species and other environmentally friendly crops, advise against the indiscriminate harvesting of papyrus		
Borehole & Water pans: Salty, dirty water, especially in rainy season	Construction of small water reservoirs of 2000L-3000L; Encourage sustainable use of resources e.g. wells		
Roads: Poor condition, especially in rainy season, when impossible to pass. Potholes. Maintenance takes long	No mention of roads or other infrastructure in activities of the organisations		
Trading centres: Good condition. Owned by individuals but managed by chairman of Local Council	Collective marketing by group members; Provision of current market prices		
Churches: bad condition	Training centres for male circumcision		
Coffee mill: Privately owned and managed. Explotation by middleman.			
Schools:	Build schools, pay school fees and buy scholastic materials		

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