



The Ongo Community Forest REDD+ pilot Project, Uganda

A socioeconomic baseline survey



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Poverty and sustainable development impacts of REDD architecture; options for equity growth and the environment

About this project...

Poverty and sustainable development impacts of REDD architecture is a multi-country project led by the International Institute for Environment and Development (IIED, UK) and the University of Life Sciences (Aas, Norway). It started in July 2009 and will continue to December 2013. The project is funded by the Norwegian Agency for Development Cooperation (Norad) as part of the Norwegian Government's Climate and Forest Initiative. The partners in the project are Fundação Amazonas Sustentável (Brazil); Hamilton Resources and Consulting (Ghana); SNV (Viet Nam); Sokoine University of Agriculture, Faculty of Forestry and Nature Conservation (Tanzania); and Makerere University, Faculty of Forestry and Nature Conservation (Uganda).

The project aims to increase understanding of how different options for REDD design and policy at international, national and sub-national level will affect achievement of greenhouse gas emission reduction and co-benefits of sustainable development and poverty reduction. As well as examining the internal distribution and allocation of REDD payments under different design option scenarios at both international and national level, the project will work with selected REDD pilot projects in each of the five countries to generate evidence and improve understanding on the poverty impacts of REDD pilot activities, the relative merits of different types of payment mechanisms and the transaction costs.



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Abbreviations

BUCODO	Budongo Forests Community Development Organisation
CLA	Communal Land Associations
FGD	Focus group discussion
Ha	Hectare
HH	Household
REDD+	Reducing emissions from deforestation and forest degradation
SD	Standard deviation
TLU	Tropical Livestock Unit

Introduction

Rationale

This report aims to synthesise information on current socioeconomic conditions within the villages that are to be involved in the Ecotrust Pro-Poor REDD+ pilot project in the Masindi district of western Uganda. Results from this research provide a baseline of the socioeconomic conditions of households in these villages that can be compared with follow-up surveys to be conducted after the REDD pilot has been in operation for some time. This comparison will help determine the impacts of the REDD+ pilot on poverty reduction and sustainable development. This study forms a key component of the project 'poverty and sustainable development impacts of REDD architecture: options for equity, growth and the environment', led by the International Institute for Environment and Development (IIED) and the Norwegian University of Life Sciences (UMB). Results from Uganda will later be combined with research from other countries (Vietnam, Brazil, Ghana and Tanzania) to compare the impacts across countries.

Overview of the pilot area

The study was undertaken in the Masindi district of western Uganda, located between 1° 22' and 2° 20' N, and 31° 22' and 32° 23' E. The Masindi district borders Gulu in the north, Apac in the east, Nakasongola in the southeast, Kiboga in the south, Hoima in the southwest and the Democratic Republic of Congo in the west. It lies in an altitude range of 621 to 1,158 m above sea level and comprises a total area of 9,326 km², of which 8,087 km² is agricultural land, 2,843 km² wildlife-protected area, 1,031 km² forest reserves and 800 km² water.

Demographics: The district's total population is estimated at 469,865 (50.1% male and 49.9% female), about 7.3% of the population in Uganda's Western Region. The annual population growth rate is estimated at 5.05%. The district has a population density of 56 persons per km², much lower than the regional average of 129 persons per km². About 5.43% of the population resides in urban areas.

Economic activities: As in all of Uganda, agriculture is the core economic activity, with 73.1% of the population engaged in smallholder agricultural activities. About 6.2% of the total farmland is used for large-scale commercial farming. The district is the leading producer of maize in the region and the third in the country, after Iganga and Kapchorwa districts. Maize also is the major cash crop. Other traditional cash crops include tobacco, coffee and cotton.

Forestry resources: Masindi district is characterised by forests under various management regimes, including private forests, forests managed by the National Forestry Authority (NFA) such as Budongo, forests managed by the Uganda Wildlife Authority (UWA) such as Murchison Falls National Park, several local forest reserves managed by the local government and several patches of community forests. Together, these make Masindi district the richest in fauna of all the districts in Uganda, after Kotido.

The target area

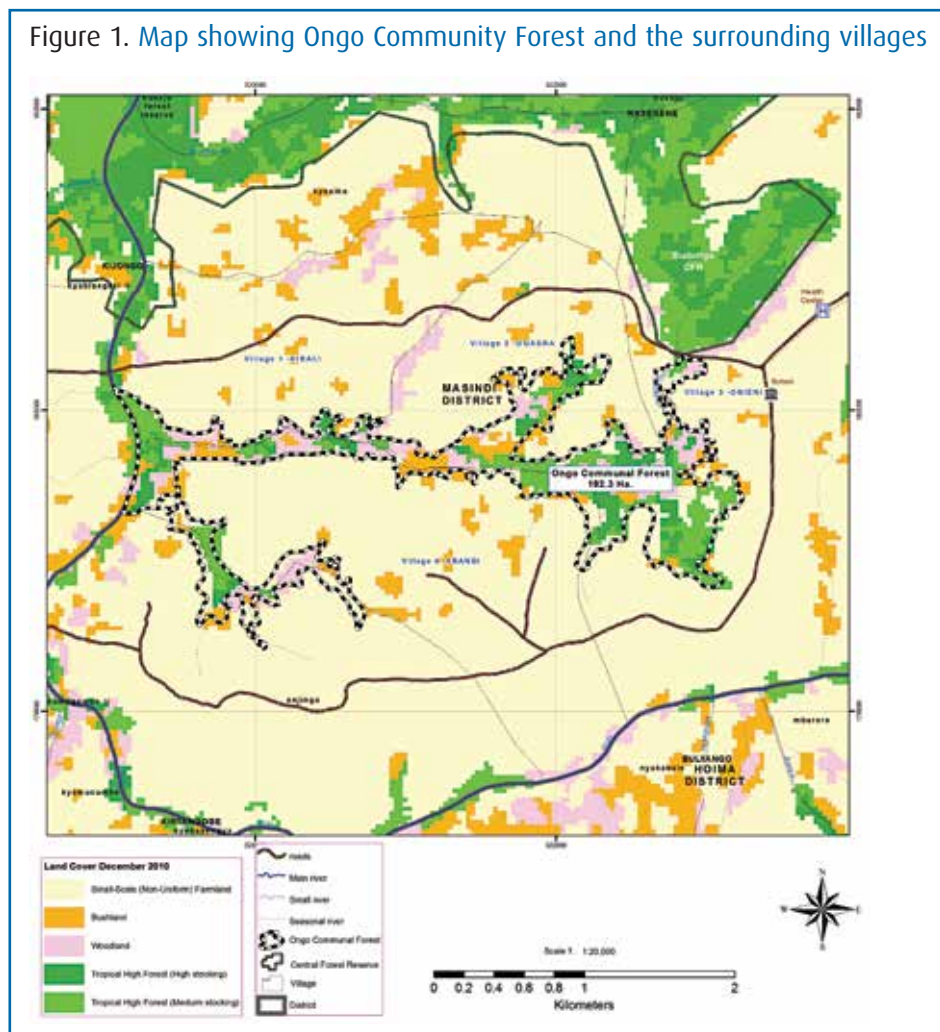
The survey was conducted in the villages of Kasenene parish, Budongo sub-county, in the Masindi district. These villages surround a communally owned forest, Ongo community forest, located about 54 km from the town of Masindi off Masindi-Butiaba road, and covering an

approximate area of 192 ha (Figure 1). The Ongo forest is a primary tropical high forest with mosaics of savannah woodlands. About 40% of the forest area is regarded as well stocked, and part of the area has been reforested with indigenous and exotic species.

The forest was originally regarded as public land close to Budongo Control forest reserve (Block B6), with no clear rules regarding ownership and use rights. In the year 2000, the local community, with assistance from the District Forest Office and the Budongo Forests Community Development Organisation (BUCODO), a local NGO, mobilised themselves and took over the management of Ongo as a community forest. This followed provisions in the Land Act of 1998, and was also consistent with legislation subsequently introduced, the Forestry and Tree Planting Act of 2003. The first clear demarcation of the forest was carried out by BUCODO in 2003. This demarcation was later revisited by Ecotrust in 2007. The community members with technical assistance from Ecotrust are now in the process of acquiring a registration certificate from the Uganda Land Commission. The community forest has a forest management committee who regulate use, as well as a draft forest management plan and a draft constitution that is under review by the Resident State Attorney to ensure it is consistent with Uganda's laws.

Of the six villages surrounding the Ongo forest, four villages are considered to be most closely associated with it in terms of coverage and proximity: Abangi, Kibali, Ogadra and Onieni; thus forming the Ongo Community Forest Association. These are the villages that were considered by the research team.

Figure 1. Map showing Ongo Community Forest and the surrounding villages



Methodology

The main research methods included focus group discussions (FGDs), key informant interviews, a household survey and transect walks. Focus group discussions (FGDs) were conducted for two communities (Abangi village and Kibali, Ogadra and Onieni villages combined) based on the proximity of the villages. For each of the communities, the participants were disaggregated by gender comprising 12-17 people (Plate 1). The tool for focus group discussions at community level was used. Given the level of attendance, further disaggregation was done for committee members and non-members in order to clarify some of the information relating to forest management and pre-REDD analysis. Some members from the FGDs and other persons such as the local council leaders and forest management committee members were identified as key informants and further discussions were held with them guided by the tool for resource persons.

Plate 1. Focus group discussions with women (left) and men (right)



3

For the household survey, respondent households were chosen at random, using random numbers, from those listed in the registers of Kasenene (parish level) Health Centre, as these were the most recently updated records. Almost equal proportions of the households from each village were targeted (Table 1).

At the household level, interviews were conducted with the household head or the spouse. In a few cases, both the household head and spouse were present, and sometimes children were also present (Plate 2). In such cases, however, the male partner was the key respondent. In general, about 27% of the respondents were female.

Table 1. Sample sizes from each village

Village	Population (households)	Selected households	% selected
Abangi	187	55	29%
Kibali	80	24	30%
Ogadra	85	25	29%
Onieni	185	54	29%
Total	537	158	

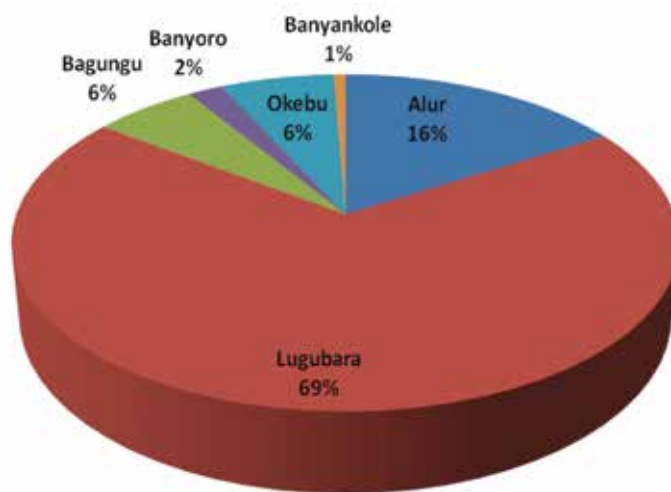
Plate 2. Interviews with respondents



Household structure and livelihoods

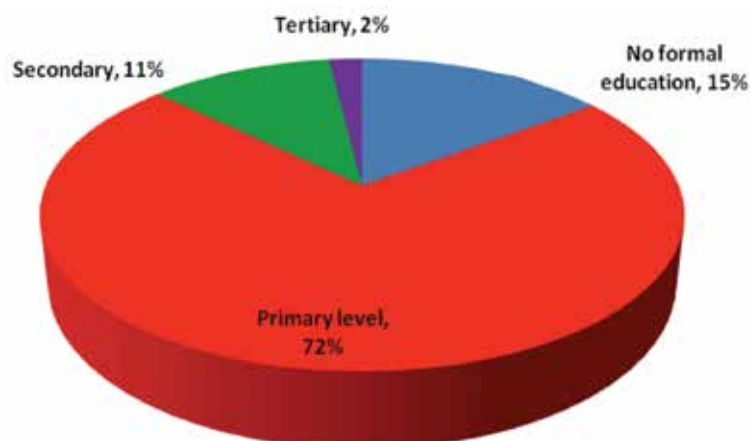
Although 158 households were randomly selected for the interviews, only 153 households/individuals agreed to participate in the interviews. The households surveyed across the four villages each had between one and twelve individuals, with an average of six individuals, the majority in the age category of 30-50 years old. The ethnic composition is shown in Figure 2. The Lugbara ethnic group dominated; only three households across the sample of 153 were Banyoro, and only one household was Banyankole. Almost 99 per cent of households were Christian.

Figure 2. Ethnic groups in the study area ($n = 153$)



Education levels were found to be very low. About 15% of respondents in the surveyed households had no formal education, and about 72% had attained primary-level education (Figure 3). Only three respondents had exceeded secondary-level education. In relation to attainment of other skills through training, about 33% of the respondents had received training, of which 41% had agricultural management skills, 10% had forest management skills, 16% were trained in plantation growing and 32% in other skills.

Figure 3. Education level of respondents ($n = 151$)



The majority (86%) of the respondents were reported to be married (Table 2).

Table 2. Marital status of respondents

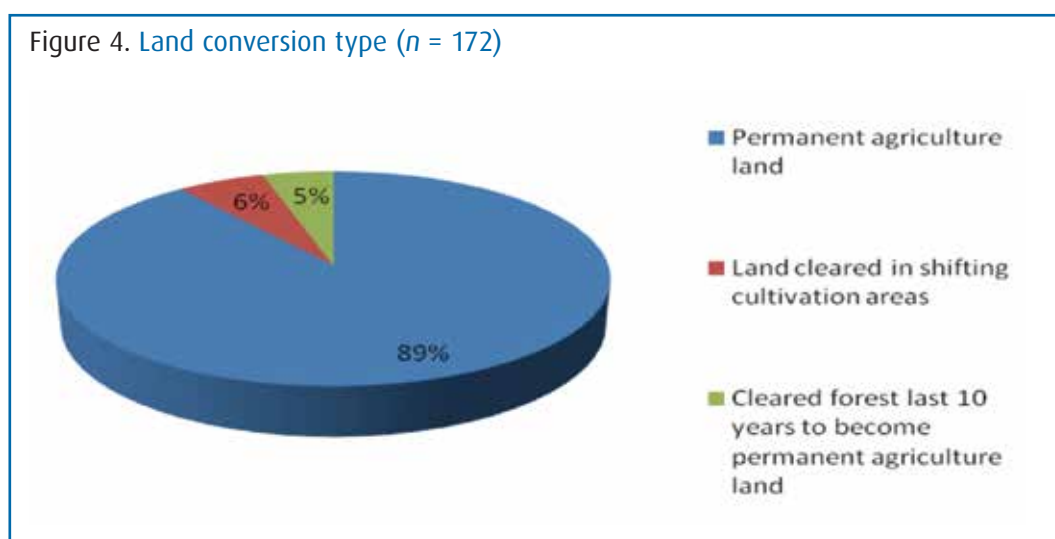
Marital status	Respondents (n = 153)	
	Count	%
Single	14	9%
Married	131	86%
Divorced	2	1%
Separated	2	1%
Widowed	4	3%
Total	153	100

1.1 Farmland ownership, access and use

The majority of the respondents (98%) view their farmland as being under customary tenure, passed on from generation to generation through the male lineage, while 2% of the respondents reported using land owned by the state – that is, land in the Budongo Reserve. Under the customary system, individuals or families privately own parcels of land over which they can exercise several bundles of rights, including rights to use, improve, bequeath, rent and dispose of the land. These individual landholders do not own land title, but can acquire customary certificates of ownership as provided for in the Land Act of 1998.

Landholdings per household ranged from 0.1 to 25 ha, with a mean of 3.4 ha. Of the 172 parcels of land reported across the 153 households, only 4% were rented, always from other individuals. Of the land not rented, 94% was privately held and 2% was non-rented land cleared for agriculture in state-owned forests.

Furthermore, of all the parcels of land reported, the vast majority (89%) were described as permanent agricultural land (Figure 4). Only a small number of parcels were reported to be land that had been cleared for agriculture in private forest areas.



Responses during focus group discussions (FGDs) and household surveys revealed that the main livelihood of the community members is subsistence farming, with 71% of household survey respondents growing mainly maize, 65% beans and 57% cassava for both commercial and subsistence uses. Millet, sweet potatoes, bananas and groundnuts were also named as important subsistence crops. In addition, 49% and 5% of the interviewed households reported to engage in tobacco and rice as commercial crops. Rice and tobacco require fertile lands in order to realise high yields. Because most of the farmland has been under permanent agriculture for some time, fertility has dropped. As a result, some community members have encroached on the community forest to clear new lands for rice and tobacco cultivation (Plate 3).

Plate 3. Land clearing at the forest boundary and rice cultivation in newly cleared area



1.2 Relationships at household and community levels

Over 95% of the respondents consider their village/community to be a good place to live in. Trust of individuals within the villages was high, with over 79% of households reporting 'high' or 'very high' levels of trust. There were also mostly positive responses regarding relationships with neighbours and people from other communities. In the case of relationships with village councils and local government officials, a few very bad relationships were reported, but most respondents reported good relationships (Table 3).

Table 3. Relationship of households with others connected with the village (n = 153)

Relationship	Very bad	Bad	Fair	Good	Very good
Neighbours		1	7	75	65
People from other communities			14	81	53
NGO workers			10	76	46
Village council	1		15	70	62
Local government officials	2		20	65	61

1.3 Welfare status and ownership of assets

The financial situation of households across the communities was assessed from a number of different perspectives, each confirming the relative poverty of all four villages. In terms of housing, almost all of those who had a home also owned it, with only two respondents saying they did not own the home in which they lived. Ownership of various types of assets is listed in Table 4, with radios (84%) and bicycles (67%) being some of the most important and commonly owned assets amongst households. Bicycles are a primary form of transport in the villages and an important means to access markets, given the poor road infrastructure in rural areas.

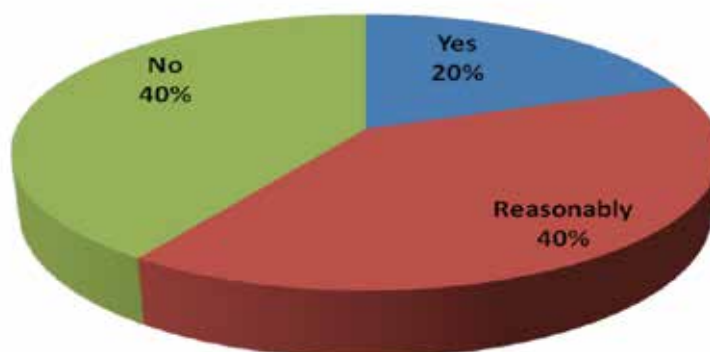
Table 4. Relationship of households with others connected with the village ($n = 153$)

Asset, non-agricultural	No. households who own or rent ≥ 1	% of households	No. who own
Motorbike	17	11%	17
Bicycle	98	67%	98
Car	1	1%	1
Television	2	1%	2
Radio	128	84%	126
Mobile phone	99	65%	95
Generator	1	1%	1
Asset, agricultural			
Hoe	153	100%	153
Cutlass	97	63%	97
Panga	143	94%	143
Axe	114	75%	114
Ox	4	3%	4
Tractor	8	5%	8

Mobile telephones were also common, with 62% of households having one or more individually owned sets. In comparison, only 1% of households interviewed owned a car, a TV or a generator. This suggests that there is a lack of affordable secondary energy sources in the area. Processing mills were not reported in the area, indicating that most processing activities occur outside the communities.

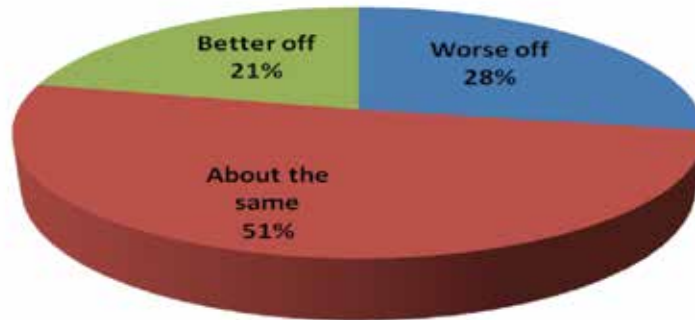
The results for agricultural assets show a very high rate of ownership of hoes, pangas and axes, with a few individuals owning oxen for personal use and hiring out. Surprisingly, although tractors are locally considered very expensive and unaffordable, 5% of respondents nevertheless reported owning them. There were no horses in the villages surveyed.

We asked about the sufficiency of recent income in the respondents' households, and about their relative wealth compared to other households in the village. Only 20% of the responding households affirmed that their income in the last year was sufficient to cover needs, though another 40% described their income as 'reasonably sufficient' (Figure 5).

Figure 5. Sufficiency of income in the last 12 months to cover needs of the household ($n = 148$)

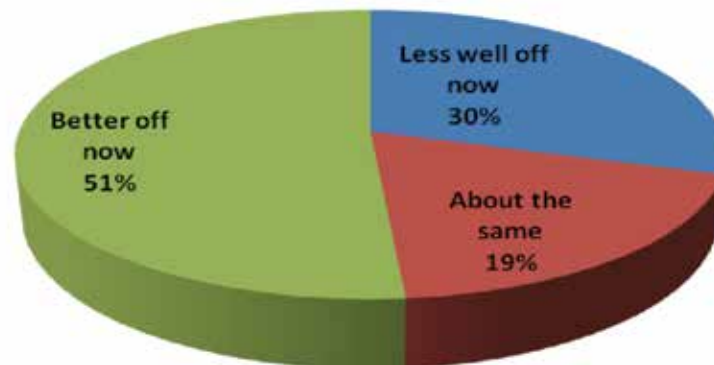
About half of the households considered themselves about average in terms of their wellbeing compared to others, but there were more households (28%) who said they were worse off than others, compared to the proportion who said they were better off (Figure 6). This finding further reflects the income insufficiency experienced by most individuals in the community.

Figure 6. Wellbeing of households relative to others in the village (n = 153)



In the temporal dimension, respondents indicated that wellbeing had improved across more than half of the households over the last five years (Figure 7).

Figure 7. Wellbeing of households relative to five years ago (n = 153)



The findings also reveal that 112 (about 73%) of the households had experienced unexpected 'severe' or 'very severe' income shortfalls in the past year. Of these 112, about half reported that one of the main reasons was price changes in products and consumer goods, and likewise about half said shortfalls were due to the death and/or serious illness of a family member in the productive age group. Serious crop failure was also a commonly cited factor. Other reasons for shortfalls are presented in Table 5.

Table 5. Reasons for severe or very severe income shortfalls in the last year (*n* = 112)

Reason	% of respondents
Serious crop failure	36%
Death/serious illness in family (productive age group/adult)	44%
Loss of land	4%
Major livestock loss (drought, disease, etc.)	25%
Loss of waged employment	5%
Climate/drought/floods	23%
Price changes on products and consumer goods	53%

Climate-related events were relatively often reported to be a main factor in income losses. This indicates that the high rate of crop failure could be in part attributable to climate related events, as well as to other factors such as declining soil fertility, poor cropping practices, limited access to extension information as a result of low education levels, and lack of access to capital and credit. Almost all community members rely on rain-fed agriculture and therefore are vulnerable to impacts of climate change.

Resource use, income and constraints

2.1 Agriculture

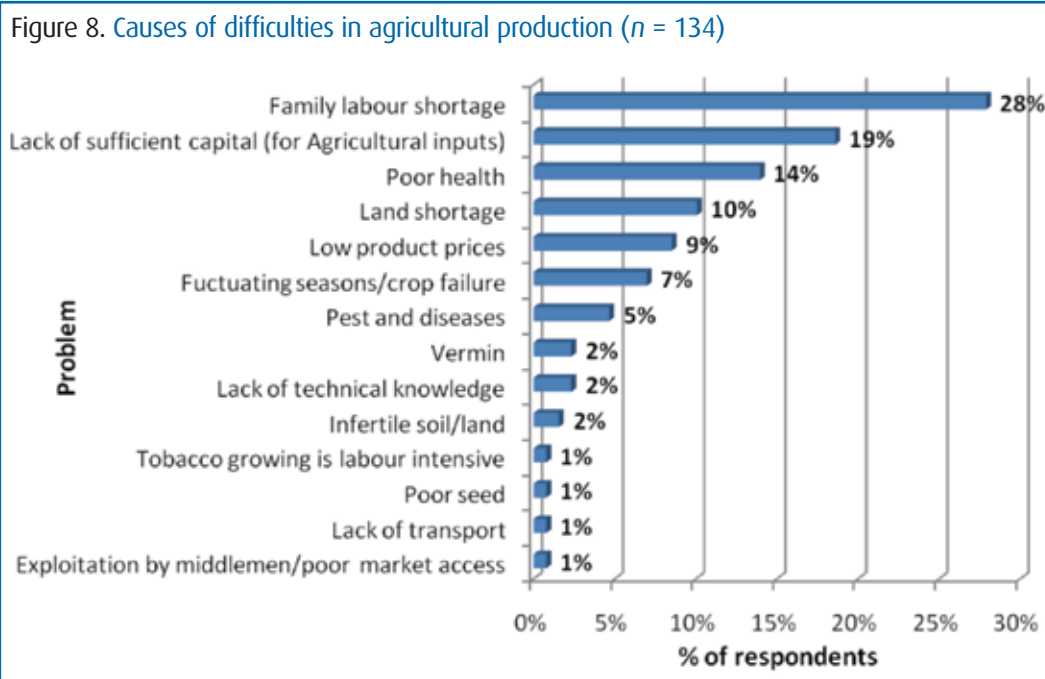
The crops that households most commonly reported growing included maize, beans, cassava and tobacco (Table 6). In terms of average area farmed annually per household, cassava and maize are the most common. In the case of maize, the reportedly high levels of production were attributed by respondents to growing market demand in the neighbouring country of South Sudan. In contrast, although the reported production of cassava was also very high, the average amount sold was less than 13% of the average output, perhaps because cassava is the main staple food in the area, rarely sold but stored for food security. The widespread cultivation of tobacco in the area was attributed to the technical and financial support from Uganda's main tobacco company, BAT-Uganda, in the form of planting materials, pesticides and herbicides.

Table 6. Most important agricultural crops across the four communities (n = 153)

Crop	No. households cultivating	Avg. area (ha) per household per yr	SD (ha)	Avg. output (kg) per household per yr	SD (kg)	Avg. sold (kg) per household per yr
Beans	101	0.21	0.12	135.00	506.86	57.39
Cassava	91	0.44	0.42	1,221.00	1,441.41	159.00
Ground nuts	56	0.23	0.16	238.14	206.21	129.40
Maize	110	0.45	0.80	581.00	434.70	327.00
Millet	53	0.38	0.30	306.00	208.00	163.00
Rice	8	0.38	0.31	736.00	643.50	610.00
Tobacco	75	0.37	0.25	424.00	518.59	355.00
Sugar cane	10	0.09	0.11	83.30	114.56	70.00
Bananas	28	0.20	0.15	349.00	751.67	204.00
Sim sim	23	0.18	0.16	94.00	68.63	39.55
Soya bean	6	0.02	0.04	10.00	24.50	6.67
Pineapples	7	0.05	0.10	333.33	816.50	285.71
Potatoes	16	0.14	0.12	140.00	217.05	13.33
Sunflower	6	0.04	0.10			
Sorghum	8	0.09	0.13	84.38	145.74	65.62

It is important to note the high standard deviation (SD) for both the average areas utilised and average outputs of crops. For instance, the reported area of maize farms ranged from 0.1 ha to 8.0 ha due to differences in landholdings and in the portion of land dedicated to maize. Similarly, the annual maize outputs of different households ranged from as low as 100kg to 2,400kg, reflecting differences in both farm areas and yields. The wide variation among households must be recognised when drawing conclusions from the average figures.

About 84% of respondents reported having difficulties associated with agricultural production from year to year. Lack of transport, soil infertility and land shortage were the problems most often reported (Figure 8).



When asked about the need to clear land for future expansion of agriculture, 115 (78%) of the respondents reported that they were not dependent on the forest for agricultural land expansion; only 4 (3%) and 9 (6%) reported being 'very dependent' or 'quite dependent', respectively. Another 19 respondents (15%) were a bit dependent and 6 respondents were non responsive. These responses could be attributed to the fact that individuals were aware that clearing forest land for cultivation was illegal. Further, when asked about the ease of clearing forest land today compared to five years ago, about 74% of the respondents reported it was more difficult to clear forest land today than it was five years ago (Table 7). An important reason for this was the increased awareness about the bylaws governing access to forest land, drafted but partially implemented by the community forest management committee. This emerged from the FGD sessions and interactions with the key informants.

Table 7. Ease of obtaining new land for agriculture compared to five years ago ($n = 153$)

Ease	Method of obtaining land (% of respondents)			
	By inheritance	By buying	By renting	By clearing forest
Easier	11%	9%	22%	1%
Same as before	12%	8%	12%	7%
More difficult	56%	77%	47%	74%
No answer	21%	6%	19%	19%

These findings suggest that encroachment on the forest for agricultural activities may not currently be the main driver of deforestation in the REDD+ pilot areas. However, a different picture emerged from our forest and community transect walks, where a number of newly cleared patches of land were observed along the forest frontier in all the four villages. It is possible that enforcement of the restrictions is weak in practice due to lack of functioning institutions that discourage forest clearing, and that survey respondents were reluctant to admit to dependence on forest clearing because it known as an illegal activity. Further, the existence of such illegal practices was revealed during the discussions with key informants, especially with the members of the forest management committee.

2.2 Livestock

The main types of livestock owned are shown in Table 8. When measured in Tropical Livestock Units (TLUs), goats and pigs dominated, followed by cattle. In terms of number of animals, chickens were the most common; they are highly valued for eggs and meat, and as a source of quick cash in times of need.

The feed sources for livestock revealed that the majority depended on non-forest land and use of crop residues, thus revealing no pressure on forest land from grazing or fodder collection.

Table 8. Livestock ownership and feed type

Livestock	No. households owing	Total number owned	TLUs	Feed type (no. respondents)		
				Forest land (grazing and/or collected fodder)	Non-forest land (grazing and/or collected fodder)	Using crop residues
Cattle	9	33	23.1	0	1	2
Goat	115	496	99.2	0	97	27
Sheep	3	6	0.6	0	7	0
Pig	45	87	87.0	0	22	22
Poultry	135	1401	14.0	0	44	70

2.3 Forests

Regarding the importance of forest resource use, respondents reported that the forest is important as a source of fuelwood (74%) and poles (71%) for households' own use. This is consistent with the finding that a majority of households (68%) rely on fuelwood collected from potential REDD+ areas as their primary source of cooking energy (Figure 9). A further 31% rely on fuelwood from other forests. Both results confirm field observations suggesting a threat of forest degradation from fuelwood collection. This accords with the low reported use of charcoal as cooking fuel.

Notably, about 58% of households had no secondary form of cooking fuel, and electricity was hardly mentioned as a form of cooking energy, further emphasising the importance of fuelwood from forests for cooking. Collection of fuelwood was most often reported to be carried out by a mix of household members, while poles are collected mostly by male household members. The findings also reveal that fuelwood is collected predominantly from commonly owned forest land as opposed to other forested landscapes (Figure 10).

Figure 9. Primary source of cooking fuel (n = 153)

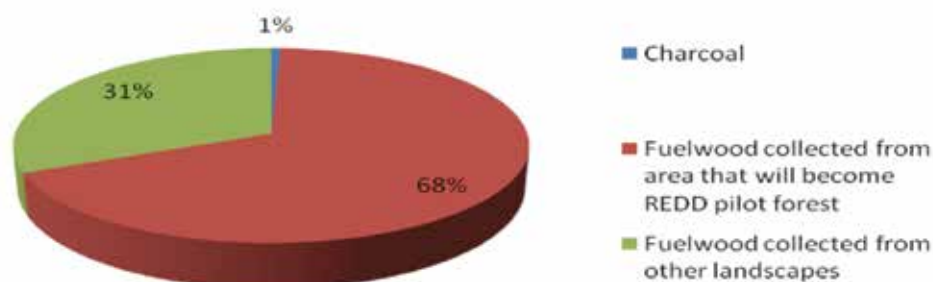
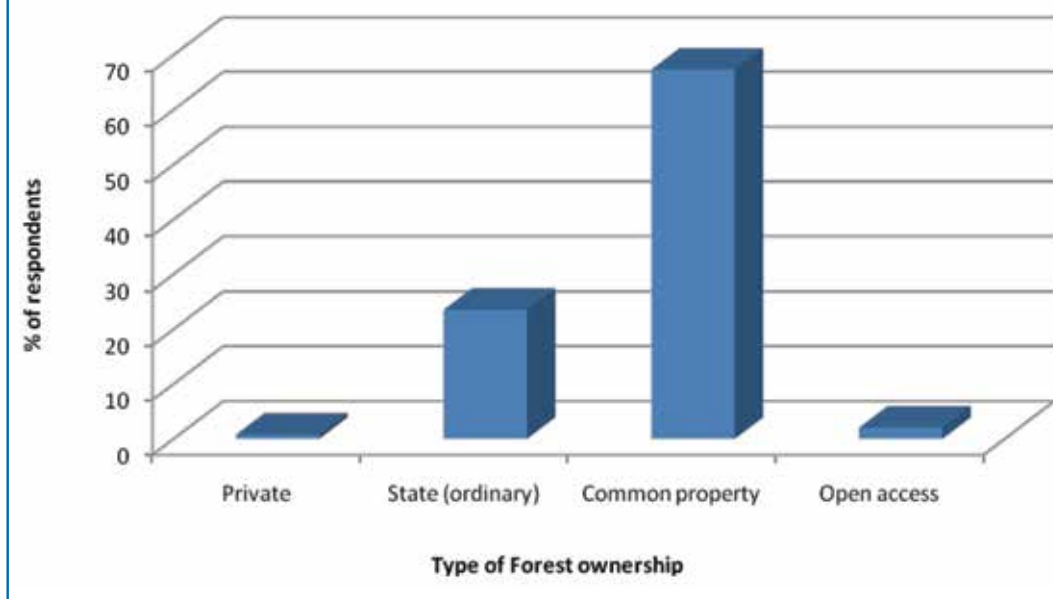


Figure 10. Ownership of forest areas where fuelwood is collected ($n = 148$)



Although poles were reportedly collected mainly for subsistence use, it is important to note that tobacco farming requires construction of a tobacco barn, which is reconstructed every three to four years. A large number of poles are extracted for this purpose, given that over 50% of the interviewed households are engaged in this activity (Plate 4).

Plate 4. A tobacco barn constructed with poles of different sizes, and tobacco farmers during the selling season



When asked about their access to forest resources compared to five years ago, the majority of respondents reported a reduction in access to and use of forests (Figure 11). This was mainly attributed to the enforcement of existing regulations.

When asked about their satisfaction with forest management in their community, 73% of respondents to this question said they were very satisfied, and about 1% were very dissatisfied (Figure 12).

Further, the respondents were asked about their relationship with other forest uses and most of them (71%) reported having a good or very good relationship with other forest users in (Figure 13).

Figure 11. Access to forest resources compared to five years ago ($n = 146$)

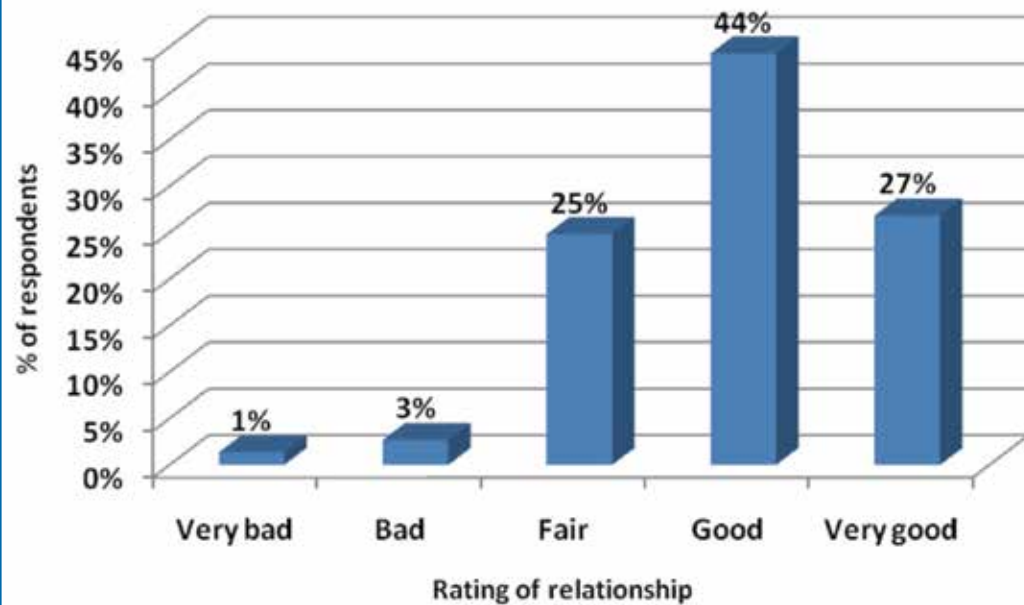


Figure 12. Satisfaction with forest management ($n = 149$)

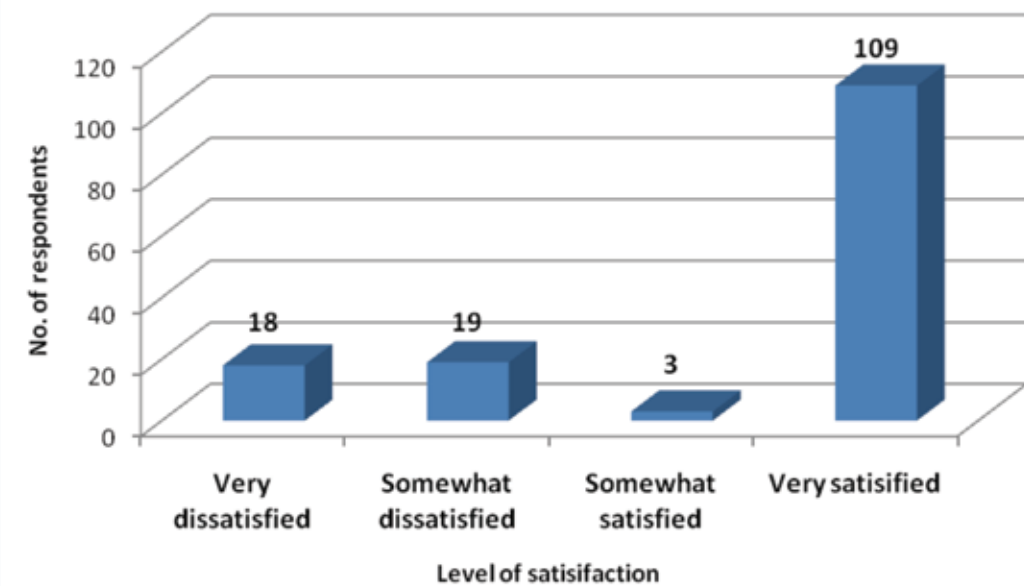
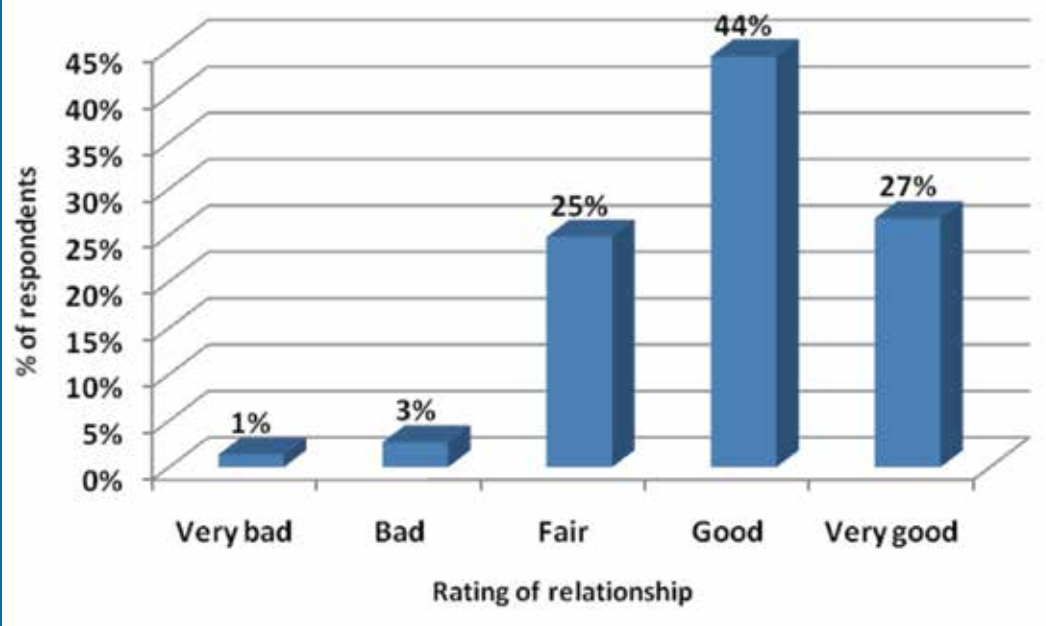


Figure 13. Relationship with other forest users in terms of access to and use of forest resources (n = 149)



Property rights, use rights and management of forests

The land tenure system in the study area is mainly customary, and about 78% of the interviewed individuals reported having access to the community forest. Interviews with key informants and focus group discussions revealed that the Communal Land Association (CLA) management committee is expected to manage the community forest by regulating access and use. The committee patrols the forest boundary, plants boundary trees and creates bylaws on the extraction of forest products. They have also devised non-destructive activities in the forest, including beekeeping and regulated harvesting of non-timber forest products.

Rules on the use and harvest of forest products, set by the community members to be enforced by the management committee, include the following: one day per week specified for collecting firewood from the forest; the villagers are permitted, under supervision, to harvest poles for house construction or repair twice a month; no harvesting trees for timber is permitted; in addition to poles, villagers are allowed to collect firewood and non-timber products such as medicinal plants, vegetables and wild foods, only for home consumption; those entering the forest must always be accompanied by one or more forest guards, who may be village members or part of the management committee.

Given these prevailing rules and sanctions, the survey respondents were asked about the status of their use rights and 44% reported that their rights were formal. Further, only 37% reported having a common right to resources in the community forest. The use rights were often limited to particular products such as firewood and poles for home use. When asked about their involvement in making the rules, many respondents (52%) reported that they had a strong influence through village assembly meetings, and 21% through other fora, while 27% had not participated at all.

Several sanctions were reported, ranging from a warning for the first offence, through to punishments such as participating in enrichment planting for second-time offenders, and buying seedlings and replanting the forest for habitual offenders. However, the respondents said that the management team was dishonest and applied the sanctions selectively.

FGDs revealed that village members felt the existing sanctions were adequate, although difficult to enforce due to lack of an ownership document and hence lack of legal powers.

Although a large proportion of the respondents in the household survey were satisfied with the rules, 59 respondents were 'very dissatisfied or 'somewhat dissatisfied'. The reasons given by these dissatisfied respondents are presented in Table 9. The most commonly reported reasons included unequal distribution of use and benefits, unclear boundaries and thus the intrusion of outsiders, and respondents' interests not being taken into account. A relatively large number also mentioned weak enforcement of rules and sanctions. This is consistent with comments in the FGDs about the selective application of sanctions.

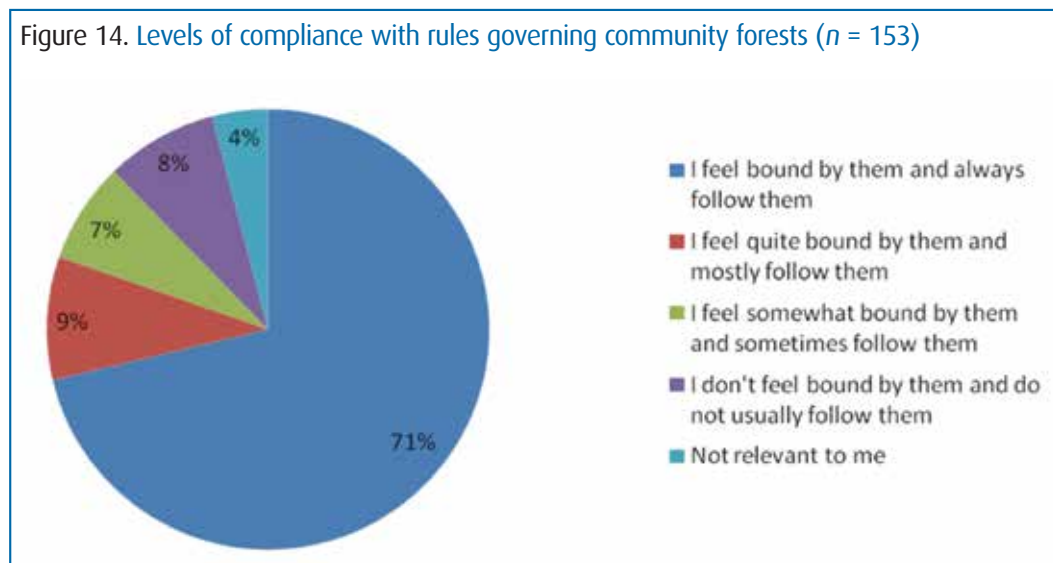
Table 9. Reasons for dissatisfaction with rules governing community forests

Reasons for dissatisfaction	No. respondents (n=59)			
	Disagree	Disagree somewhat	Agree somewhat	Agree
Unequal distribution of use and benefits	1	1	3	12
Rules are not followed	2	1	4	8
Enforcement of rules/sanctions is too weak	1	2	2	10
Bad management/lack of coordination	1	1	4	8
My/our interests are not taken into account	4	1	0	11
Unclear boundaries/outside are intruding	2	1	0	11
Creates opportunities for corruption	2	1	2	9
The local community is not enough involved in making rules	3	1	5	6
Limits on access to resources are too strong	5	1	1	7
Conflict resolution mechanisms are inappropriate	3	3	0	8

When asked how bound they feel they are by the rules that govern community forests, a high proportion of respondents (71%) said they felt bound to comply (Figure 14). Only a small percentage of the responses suggested non-compliance with the rules. Village members in the focus group sessions also reported that they felt obliged to abide by the management rules and therefore tried to follow them.

In relation to changes in the rules, about 50% (77) of the respondents said that there had been changes, while 29% reported no changes and 21% did not know about any changes in the past 5 years. This contrasted, however, with the FGDs, where participants reported that the rules had not changed over the past five years and expressed the desire to change some rules. Some of the proposed changes or additions were to prohibit farming in the forest for everyone, both management committee members and non-members, as this has been the main source of conflicts; to ban timber harvesting except with permits; and to limit committee members' tenure so that they serve only one term.

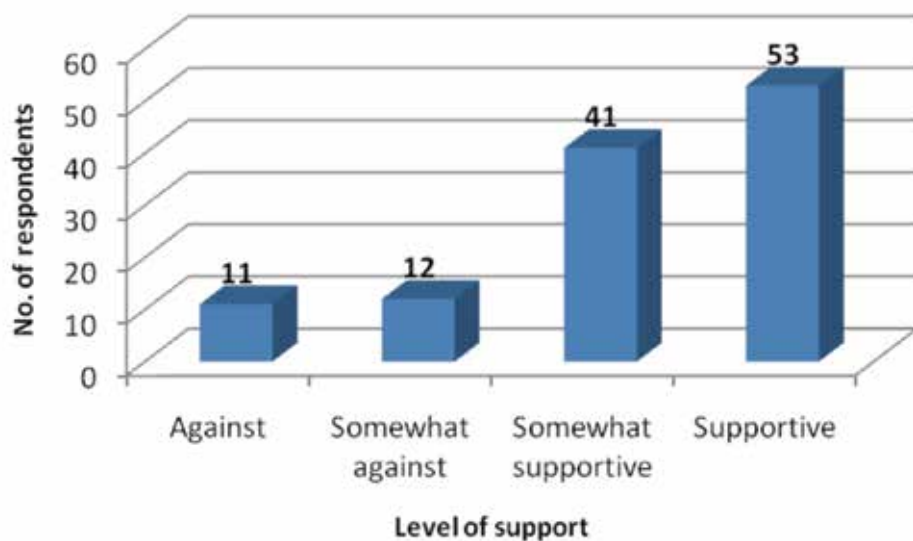
We further investigated individuals' relationships with the management committee ($n=134$), and a large proportion of the respondents (84%) reported a very good or good relationship, 12% reported a fair relationship, and only 2% reported a bad or very bad relationship. There were however, a relatively large number (19) of non-responses to this question.

Figure 14. Levels of compliance with rules governing community forests ($n = 153$)

Perceptions, attitudes and norms concerning resource conservation

About 76% of respondents reported that there were forests in their communities that were protected by the state (part of the Budongo Forest). Among those aware of protected forests, there was generally a very high level of support for their protection (Figure 15).

Figure 15. Support for protection of forest areas ($n = 117$)



We also investigated local people's involvement in developing conservation measures for the state forest. We found that 54% of respondents were not aware of any locally developed measures. According to those who did report the existence of such measures, the most common measures pertained to controlling harvesting of forest products and limiting clearing for cultivation (Table 10). The resource persons, however, said that the existing conservation measures were developed by national officials but enforced by community members working on behalf of the government. That is, the local communities are not actively involved in developing conservation measures for the area's government-protected forest, but are bound to follow the rules and regulations. The government had planned to initiate a community-based project to engage communities in managing and protecting the forest through boundary tree planting, but the initiative never materialised.

Table 10. Reports of community-developed conservation measures in state-protected forests (*n* = 153)

Conservation measure reported	No. respondents
Controlling harvest of forest products	78
Limiting farmland in the forest	51
Protecting some areas in the forest	34
Placing guards to control illegal use of the forest	25

Pre-REDD analysis

Almost all the respondents were aware of the role of forests in countering climate change, citing regulation of rainfall patterns and quantity as the most important aspects. Based on this awareness, the respondents were asked whether they would stop clearing forest land for agriculture or stop harvesting wood resources from the forest (fuelwood, poles and timber, and/or wood for charcoal production) if they received compensation for their income loss. Respondents most often agreed to this when considering compensation in the form of alternative sources of livelihoods, increased employment opportunities or better social services in the community, with more than 80% saying they 'agree' or 'agree somewhat' with these compensation types (Table 11). In contrast, only 60% agreed to compensation by payments.

Table 11. Agreement to different types of compensation for halting deforestation and degradation

Type of compensation	% of respondents			
	Disagree	Disagree somewhat	Agree somewhat	Agree
Payments (<i>n</i> = 132)	34%	6%	15%	45%
Increased employment opportunities (<i>n</i> = 135)	13%	5%	42%	41%
Alternative sources of livelihoods (<i>n</i> = 143)	8%	2%	44%	46%
Better social services in my community (<i>n</i> = 133)	10%	6%	38%	47%

Most of the respondents who were in agreement with some form of compensation said that their reasons included the importance of forest protection and the expectation that environmental conditions would improve (Table 12). In addition, the compensation was widely seen as a way to improve local people's conditions as well as to increase the respondents' own income and generally improve their livelihoods.

For respondents who could not be motivated by some form of compensation ('disagree' or 'disagree somewhat' to all compensation types), the main reasons cited related to inadequate compensation levels (Table 13).

Table 12. Reasons for agreement with compensation

Reason for agreement	% of respondents			
	Disagree	Disagree somewhat	Agree somewhat	Agree
The compensation will make me better off (<i>n</i> = 112)	6%	3%	22%	69%
Forest protection is important (<i>n</i> = 123)			21%	79%
Improvement of environmental conditions (<i>n</i> = 118)			22%	78%
I need more income (<i>n</i> = 102)	8%	12%	32%	48%
It will improve the conditions of our village/ community (<i>n</i> = 118)	2%	2%	36%	60%

Table 13. Reasons for disagreement with compensation

Reason for disagreement	% of respondents			
	Disagree	Disagree somewhat	Agree somewhat	Agree
My livelihood depends too much on the forest (n = 21)	62%		19%	19%
The forest has a strong cultural value to me and it is wrong to accept compensation (n = 16)	94%			6%
Money cannot compensate for reduced use of the forest (n = 23)	26%	9%	9%	56%
I do not think I will be compensated enough (n = 24)	25%		12%	62%

All the participants in the FGD sessions unanimously agreed that there should never be cash payments as compensation for reduced access to community forestry resources. They preferred in-kind compensation in several forms, including community services such as hospitals, schools and teachers' residences, protected wells, communication infrastructure and electricity; inputs such as seedlings for woodlots outside the forest and enrichment planting; and small projects to provide alternative sources of income. Among the proposed small income-generating projects were development of ecotourism sites and rearing of goats, pigs and poultry. These activities could produce cash to purchase goods and commodities that would otherwise be obtained from the forest. However, where cash payments were inevitably an option the community members preferred to have a savings and credit scheme created at the parish level to enable individuals or groups to access credit, other than giving cash to individuals. There was, however a fear among FGD participants that credit schemes may involve high interest rates and repayment constraints.

Women in the FGDs expressed concern that if they were denied access to the forest, they would have nowhere else to collect firewood. They therefore stated that they must be allowed to collect firewood in all planned compensation schemes.

5.1 Management of the compensation programmes

We asked who could properly manage a compensation programme to combat deforestation in the community. Respondents most often favoured a specially elected village committee or NGOs, while the least preference was for government officials (Table 14).

Table 14. Preferences for who should manage the compensation programme

Suggested managers	% of respondents			
	Disagree	Disagree somewhat	Agree somewhat	Agree
Government officials (n = 132)	41%	14%	27%	18%
Village leaders (n = 134)	25%	10%	35%	30%
Specially elected village committee (n = 137)	10%	6%	24%	60%
NGOs (n = 123)	13%	13%	30%	44%

Asked about the possible results and issues that may arise from such a programme, almost 96% of respondents agreed that improvement of the overall income situation in the village or community was a possibility, and many expected reduction of conflicts in the community. On the other hand, corruption and unequal distribution of benefits were also commonly expected, although relatively few respondents perceived a threat of payments going only to landowners (Table 15).

The survey responses were consistent with comments from the FGDs, where village members said they wanted the scheme to be managed by a democratically elected team of caretakers for each in-kind investment. In terms of potential problems, FGD participants envisaged that the elected committees might fail to operate or fail to implement the schemes fairly.

Table 15. Issues that may arise from the compensation programme

Issue	% of respondents			
	Disagree	Disagree somewhat	Agree somewhat	Agree
Overall income situation improved (<i>n</i> = 140)	1%	2%	34%	62%
More corruption (<i>n</i> = 99)	28%	7%	19%	45%
Unequal distribution of payments (<i>n</i> = 94)	27%	11%	32%	31%
Skewed payments to land owners (<i>n</i> = 91)	48%	14%	16%	21%
Reduced conflicts in the village/community (<i>n</i> = 97)	16%	15%	19%	49%
More privatisation of land (<i>n</i> = 87)	48%	11%	11%	29%

Conclusions

Comprehensive socioeconomic surveys were conducted across 153 randomly selected households within four villages. The findings on household structure and livelihoods reveal dominance of the Lugbara ethnic group, very low levels of education, and agriculture as the main livelihood activity.

The major cash crops in the area, maize, tobacco and rice, require fertile land in order to realise high yields. Given the generally high prices for farm inputs, farmers fill this need by continually opening new land. As a result, some community members have encroached on the community forest to clear new farmland, as we found during forest and community transect walks. Survey responses contradicted this, however, with few respondents reporting dependence on forest land for expanding cultivation. This was related to increased restrictions on access to and use of the community forest.

In addition, tobacco growing requires construction of a tobacco barn, which is re-constructed every three to four years. This implies a high level of dependence on the forest for such poles, although the survey respondents only reported minimal extraction of construction (house) poles for subsistence use. The results are conflicting, but in our opinion, given the pressure of agricultural demand and the wood needs for tobacco barns, they suggest that clearing of land for cultivation and extraction of poles (for both subsistence and commercial activities) are the major drivers of deforestation and degradation of the community forest.

The CLA management committee is expected to manage the community forest by regulating access and use. The committee has drafted bylaws, but implementation of these rules is impeded by the lack of legal rights that would be granted through a formal ownership document. Nevertheless, community members are aware of the forest management and governance system and to some extent feel bound by the rules. However, observations during the transect walks along the forest frontier indicated high levels of illegal activity especially clearing of land for cultivation of rice and tobacco.

In terms of the future for REDD+ activities in the area, survey respondents and focus groups overwhelmingly supported the provision of alternative sources of livelihoods as compensation for avoided deforestation and forest degradation. However, there were concerns about how the compensation scheme might limit people's access to important forest resources, especially for women. While the majority of survey respondents thought that compensation under the programme would make them better off, it is still of concern that about 15% disagreed with the idea of compensation.

Finally, there were important implications for the design of REDD+ payment systems. Functioning institutions (existing laws and implementing agencies) are key. It is also crucial to consider community members' preferences regarding compensation types and programme managers, as well as their concerns about potential issues such as corruption and payment inequality that may arise in the implementation of a compensation programme.

