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UPSCALING SUSTAINABLE LAND MANAGEMENT IN LAMWO DISTRICT, UGANDA

Richard Komakech

Lamwo District Local Government
P.O Box 1, Lamwo- Uganda
komtroy1@gmail.com

Supervisor

Bjorn Helgi Barkarson
Ministry for the Environment and Natural Resources
bjorn.helgi.barkason@environment.is

ABSTRACT

Lamwo district in northern Uganda is recovering after the civil war that lasted for over 22 years and affected the livelihoods of the people. The government of Uganda and some donors have supported rehabilitation of the district by initiating programmes like the Peace Recovery and Development Plan among others, targeting agriculture as the main economic activity in the district. There are several land management activities being practiced that could be upscaled to different parts of the district.

A survey was conducted in the Lamwo district and a selected group of people interviewed on involvement of all stakeholders in planning, monitoring and dissemination, knowledge transfer, gender and policy, as they are the key decision makers within the community. The group was selected to reflect the community composition including farmers, farmer's groups leaders, clan leaders, local council chairpersons, subcounty officials, district and NGO representatives.

The results of the survey revealed that there is active participation of the communities in planning and implementation of programmes. But there is lack of monitoring of the impact of the activities on society and the environment. This makes it difficult to assess the sustainability of different activities. Also, since the lack of monitoring does not confirm the success or the lack of different activities, the communities lose trust in the programmes being implemented.

To improve the sustainability of current activities the following is recommended: active participation of stakeholders, gender sensitive planning and implementation, strengthening of the local structures, establishment of demonstration farms and forming model homesteads, establishment of a database for all the positive land management practices within the district, and improvement in monitoring and documentation.

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1. INTRODUCTION

Agricultural activities are the major contributor to the livelihood of the people in Northern Uganda. The majority of the activities being carried out within Lamwo district are agricultural in nature like tree planting, agroforestry, bee keeping, fish farming, and livestock rearing. Activities also involve conservation of the natural vegetation (LDLG [Lamwo District Local Government] 2015).

Within the Lamwo district, sesame (*Sesamum Inducum L*) production has become widespread. This is leading to vegetation loss with associated problems of soil erosion (LDLG 2015).

Most of the activities identified in the district have received support from the government in accordance with the Peace, Recovery and Development plan (PRDP) (ACCS [Advisory Consortium on Conflict Sensitivity] 2013). The Republic of Uganda developed a plan for the reconstruction of northern Ugandan society, which was hit by the Lord's Resistance Movement. The PRDP I for northern Uganda was developed by the government in 2007. The PRDP I was revised and a new PRDP II was implemented in 2012 adding four years to the programme. The plans focused on changing the livelihoods of the people through agriculture, improved infrastructure and by bridging the gaps between the northern district and some districts which had been relatively peaceful. Funding was delivered through the office of the prime minister and to the districts with funding from the donor (ACCS 2013).

During the period of war, there was an increase in forest cover by 19% in the district of Kitgum (Nampindo et al. 2005). Kitgum district had two counties, Lamwo County and Chua county. In 2010, Lamwo county was separated from Kitgum and became a district (LDLG 2015). The increase in the forest cover was the result of the resettlement of people from their original homesteads and into the trading centres which became camps. Their land was left uncultivated for a period of more than 12 years while they were in the camps, but currently the vegetation is being cleared to pave the way for agricultural fields (LDLG 2015).

Agricultural support is being directed towards this region through structural arrangements like the women's groups, farmer groups and available government structure and the civil society organization. There are some visible impacts on the livelihoods of the people, though not documented properly (Tukahirwa et al. 2004).

Sustainable land management (SLM) is defined as the use of land resources like water, soils, flora and the fauna for generation of goods to meet the needs of humans ensuring that they produce adequately without affecting the environmental functions (Lineger & Critchley 2007). Sustainable Development Appraisal is an approach which is used to aggregate information from the communities which helps the researchers and planners. It is cost effective and very helpful in participatory planning. It is used locally and external stakeholders take concern of both the local and scientific knowledge (CDE [Centre for Development and Environment] 2000).

All the human livelihoods are derived from a complex socio-ecological system which needs to be understood, and scientific knowledge is very important in reaching and maintaining sustainability of the ecosystems (Ostrom 2009). The ecological and the social sciences have developed differently. From a political and social point of view, the government has enacted

regulations and the focus is on improvement of the livelihoods of the people. Over-utilization of the natural resources denies the impact on the environmental components. In this way, ecological and scientific concerns do not combine easily with social priorities (Ostrom 2009).

There is need to assess the economic impacts of the sustainable land management activities, and to ascertain whether the suggested activities bring enough incomes to the communities. Sustainability of activities should be measured by the involvement of different stakeholders and whether they are acceptable by the communities. Activities implemented must also be environmentally friendly. There are theoretical models that have been developed to predict the future impact of the systems. The activities that are being implemented will have both short- and long-term impacts that need to be analysed (Ostrom 2009).

The purpose of this study was to identify current activities that can be defined as sustainable land management and can be considered feasible and suitable for expansion to other parts of the Lamwo district in Uganda. This will help in solving land degradation and will help in mitigating the impacts of climate change.

The main objective of the study was to increase the sustainable land management agricultural activities using current community structures within the communities in the Lamwo district.

The specific objectives of the study were:

- To identify criteria for assessing the sustainability of land use activities.
- To assess and document the sustainability of current land use activities and the feasibility for upscaling these activities.
- To find solutions for increasing the participation and involvement of women in the activities.

2. METHODS OF STUDY

2.1 Description of the study area

The area of research was in the Lamwo Town Council, Lamwo District in Uganda. The district is 5,588.3 sq. km in size. A survey was carried out in two villages, Ododo with a total population of 733 and Okwokwene with a population of 884 (LTC [Lamwo Town Council] 2015).

The villages are located in a rural growth centre that was affected by the civil war but has been rehabilitated. Activities carried out in the study area include, for example, agroforestry, tree planting, animal rearing, shifting cultivation, beekeeping and poultry farming (LDLG 2015). The main cash crop grown is cotton and other crops grown are maize, ground nuts, simsim, rice, millet, and sorghum. Livestock farming in a way helps in complementing the crops grown (LDLG 2015).

Under the decentralization policy of 1992, local governments have administrative powers which set the structures of the political and technical bodies (Steiner 2006). According to the

Local Government Act of 1997, villages are the smallest political administrative unit and have a council governed by the chairperson of the Local Council with nine executives. A parish comprises all the chairmen from the villages that elect their Local Council II chairperson and the government employee, the parish chief, who provides the technical guidance to the council (ULII [Uganda Legal Information Institute] 1997).

The local government council is a corporate body with the power to make decisions and set rules which are legally acceptable. The urban council comprises all of the parishes and has a council chairperson, a speaker and technical staff. The districts are comprised of subcounties that have their own hold political and technical staff (ULII 1997).

All these administrative and political boundaries make their resolutions which are accepted by the central government (ULII 1997). Strategic planning starts at village level and people can have an influence at community meetings. If women are not represented, community meetings will not take place (Tukahirwa et al. 2004).

2.2 Description of the survey

The study was conducted in the Lamwo Town Council area and interviews were conducted in the first week of July 2017. The data were collected by three hired research assistants, two male and one female, who administered the questionnaires by interviewing the respondents. Also, a few photos were taken by the research assistants to help describe the land management activities.

A group of 25 respondents was selected for being interviewed, using questionnaires. The respondents consisted of twelve farmers (six men and six women), four village leaders, two members from NGO's who operate in the areas of agriculture and environment, two farmer group leaders, two subcounty and three district leaders. These groups were interviewed because they have vast experience in sustainable land management activities.

The total number of questions in the questionnaire was 21, consisting of structured questions (Appendix I).

The survey was designed to assess how knowledge is generated and disseminated back to the communities and other stakeholders. It also addressed whether the respondents consider that the activities or programmes that were implemented and are currently being implemented have improved the livelihood of the community and increased incomes of households. It was also intended to assess the views of the interviewees as to whether activities are socially acceptable and environmentally sound and whether change is needed.

The study also addressed the community involvement in planning of the management programs/projects, implementation, monitoring and evaluation.

2.3 Data Analysis

The results from the survey were entered into a database in Excel and the responses were analysed. The analysis focused on finding trends in views towards various land management activities, how they are planned for and implemented.

The respondents were subdivided into leaders and farmers to assess whether different trends in view would be found. Those defined as leaders were three from the district, two from the subcounty, two from NGO's, two from the local council, two farmer group leaders and two traditional leaders.

3. RESULTS

The data collection went on as planned and all the questionnaires were delivered back filled out with the responses.

All the respondents gave valuable information. In this section, the responses are shown following each question (Q1, Q2, etc.).

3.1 Background information

The interviewees were first asked to give information about their background like age and gender. A total of eight interviewees were in the age group of 31- 40 years, followed by five individuals in the age group of 51-60 and four in the age group of 41-50 years (Table 1). There were seven female and eighteen male respondents.

Table 1. Composition of respondents by age and sex.

Age group	Number of respondents		Total
	Male	Female	
21-30	1	0	1
31-40	5	3	8
41-50	3	1	4
51-60	3	2	5
61-70	1	1	2
71-80	4	0	4
81-90	1	0	1

3.2 Land management activities

Table 2. Total number of respondents who recognized having used/practised different land management activities in Lamwo Town Council, Uganda.

Land Management Activities identified by respondents	Number of respondents
Rotational system (crops fallows, shifting cultivation)	23
Forest Plantation management	14
Agroforestry	14
Energy efficiency	8
Beekeeping	8
Grazing land management	7
Wetland Protection	5
Water harvesting	4
Small scale irrigation	1

Q1: Name the land management activities being practiced

The majority of the respondents, 23 out of 25, had practised a rotational crop system. Following, as common practice, were forest plantation management and agroforestry, both activities identified by 14 individuals. Other activities were less common (Table 2).

3.3 Planning, community participation, implementation and monitoring

Q2: Is the community actively involved in planning for land management activities?

When asked about community involvement in planning, 19 respondents said that they were actively involved in planning and six respondents said that they have not been involved in any planning. Among the six respondents who said they were not involved, four were men and two were women.

Out of 13 leaders, 10 stated that the communities were involved in planning and three said communities were not actively involved. Out of the 12 farmers, three said they were not actively involved in the planning, while nine of them said they were.

Q3: Is the community actively involved in implementation of the activities?

A total of 21 out of 25 respondents stated that communities are involved in the implementation of activities in the two villages in the Lamwo Town Council and only four responded that they were not actively involved. The four who said they were not actively involved in the implementation of the activities were farmers, two men and two women. Out of the 21 stating the community was actively involved, 13 were leaders and 8 were farmers.

Q4: Is the community involved in monitoring and dissemination of results?

The number of respondents who said the community is involved in monitoring and dissemination of results were seven (28%), while 18 (72%) respondents claimed the community was not involved. Out of those who claimed the community was not involved in the monitoring, 10 were farmers, two were district officials, two subcounty officials, one from an NGO, two traditional leaders and one a local council chairperson.

Table 3. Number of respondents identifying methods through which the community is involved in planning in the two villages in the Lamwo Town Council, Uganda.

Platforms where communities are involved in planning	Number of respondents
Community meeting	17
Clan meeting	17
Subcounty meeting	15
District meeting	9
Others	7

Q5: How is the community involved in planning?

A total of 17 respondents said that meetings at community and clan level were used for involving the community in planning, 15 respondents identified meetings held at subcounty level and nine mentioned district level meetings (Table 3).

Q6: How are meetings normally mobilized?

The majority of respondents (19) stated that meetings are mobilized by the local council and 14 respondents mentioned that the clan leaders mobilized meetings (see Fig.1).

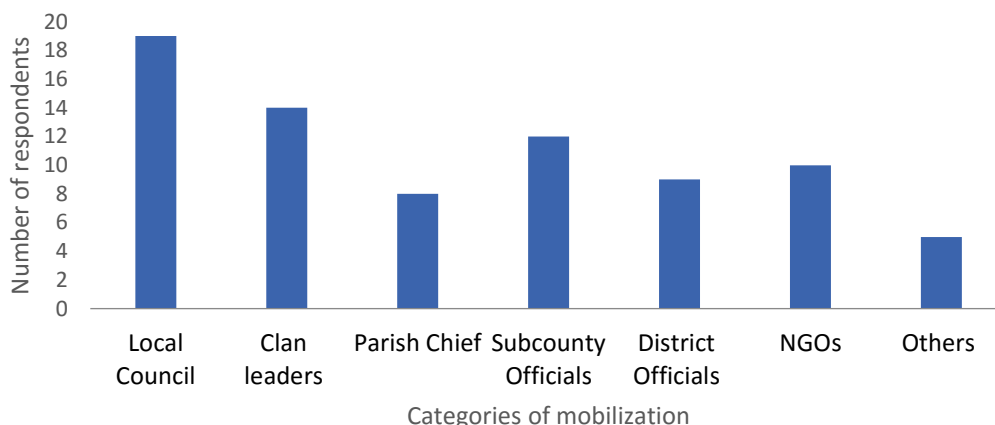


Figure 1. Total number of respondents on how mobilization of meetings for the community is carried out in the Lamwo Town Council, Uganda.

3.4 Socioeconomic impacts

Q7: Do you think the activity provided enough income for the household?

The number of respondents who think that the activities provide enough income for the households was nine (36%), while 16 (64%) responded that the activities do not provide enough income for the household. Of those who responded that the activity does not provide enough income, 10 were men and six were women.

Q8: Do you think that the government carries out the implementation of activities in time?

Five interviewees (20%) responded that the agricultural programmes are implemented in the right season and 20 (80%) of the respondents said the activities are implemented in the wrong season.

3.5 Gender

Q9: Are both genders equally involved in agricultural activities? If not, then which gender is more involved?

When asked about whether both genders are equally involved in carrying out land management activities especially in agriculture, 22 respondents stated that the genders participate equally

and three said there is unequal participation. Those three respondents were women and they said women are more involved.

Q10: Is the distribution of benefits from the production equitable between genders if not, then who benefits more?

A total of 13 out of 25 respondents stated that the benefits from the production are equally distributed. Meanwhile 12 respondents said this was not the case and all of them stated that men benefitted more. Out of those 12 respondents, three were women and nine were men.

Q11: a) Do you think the involvement of women should be improved?

Out of the 25 respondents 23 (92%) said women's involvement should be improved and two (8%) said that it should not be improved.

Q11: b) How do you think that could be accomplished?

Out of 23 respondents, six suggested that women should be provided with income for sustainable land management activities and that ownership and rights of women should be improved. Five respondents suggested women should be more involved in planning and implementation. Another five respondents said there should be some affirmative action for women, e.g. consideration for pregnant women and at least they should be provided with farming inputs and training and sensitization. Out of the 23 respondents, there were five women and 18 men who came up with ways of improving women's participation.

3.6 Environmental condition

Q12: Would you reason that the activity has improved or degraded the environmental condition of the land?

A total of 11 out of 25 respondents said that the environmental condition has improved but eight of the respondents stated that the environmental condition has degraded after the introduction of the activities (Table 4). Six respondents claimed that there was no change in the environmental condition of the land.

Q13: Do you think the access to water has improved since the activity was implemented?

A total of 11 out of 25 said there was improvement in water access, 11 stated that there was no change, but three claimed that the water access had decreased (Table 4).

Q14: Would you consider that the fertility of the land has increased or decreased since the activity was implemented?

The views of 11 out of 25 respondents was that land fertility has increased, while 9 stated that the fertility has not increased despite practicing these activities, and five noted that the fertility of the land had decreased (Table 4).

Table 4. Number of respondents claiming environmental conditions have improved or degraded after the implementation of land management activities.

Question	Number of respondents (N=25)		
	Improved	Not improved	Degraded
Has the activity improved or degraded the environmental condition?	11	6	8
Has access to water improved after the implementation of the activity?	11	11	8
Has the fertility of the land improved after implementation of the activity?	11	9	5

3.7 Knowledge transfer

Q15: How is knowledge transferred on how to use the land sustainably?

A total of 19 out of 25 respondents stated that community meetings are the most common mean of knowledge transfer. Seventeen respondents recognized local leaders and radios as common ways for communicating (Fig. 2).

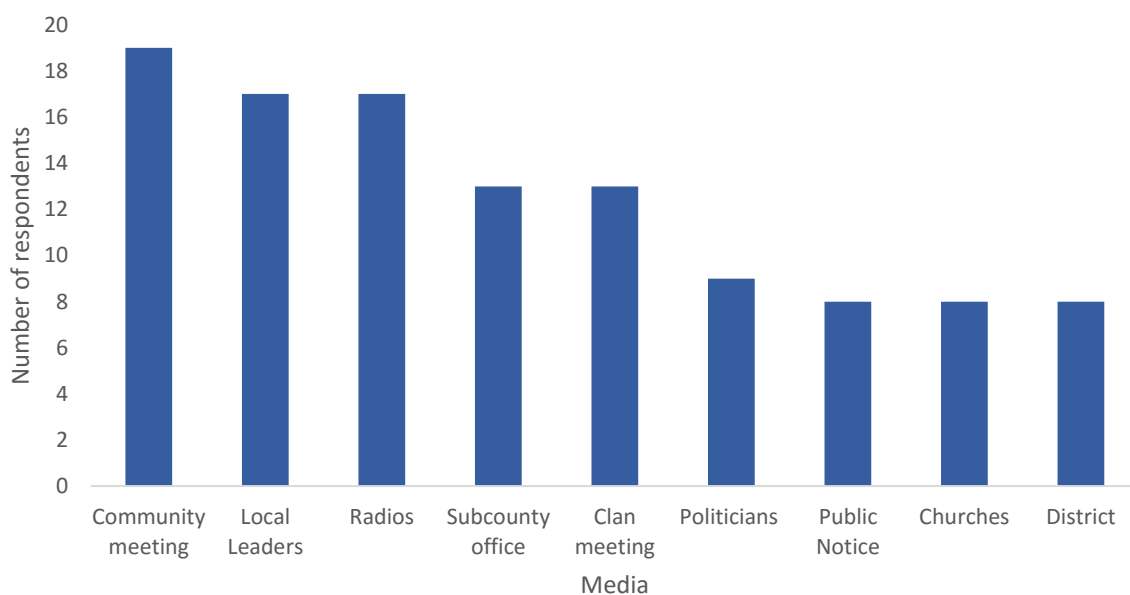


Figure 2. Number of respondents identifying means of knowledge transfer regarding land management activities in the Lamwo Town Council community.

Q16: Do you think the information given on sustainable land management is adequate?

A total of seven respondents said the information on sustainable land management was adequate and 18 responded that the information given is inadequate.

Q17: Do you think the knowledge on land management has increased after the information was given?

The majority of the interviewees (21), said their knowledge had increased after this information was given and four respondents stated their knowledge had not increased.

Q18: Suggest what can be done to improve knowledge transfer and spreading of good sustainable land management activities?

Almost all respondents, 24 out of 25, suggested knowledge transfer could be improved through training, 15 suggested more meetings, 13 mentioned radio programmes and 10 respondents identified public notice as a way of improving knowledge transfer. Other suggestions included planning and decision making, setting model farmers, demonstration garden for the technologies, exchange visits, research and studies.

3.8 Policy

Q19: Do you know any policy/laws/rules documented or undocumented, government or traditions, rules on land management policies/laws and regulations that the communities are aware of in relation to sustainable land management - if yes, name them

Out of 25 respondents eight claimed to know the current policies but 17 did not have any knowledge of the existing policies. On the other hand, 10 out of 25 respondents said they knew the laws but 10 respondents claimed they did not know any law. Only 15 out of the 25 interviewees responded when asked about whether they knew rules. Rules are instructions that explain how things must be done and laws are actually the rules and guidelines that are set by institutions. Three of them stated that they knew some rules and 12 claimed they did not know any. The respondents were additionally asked to state policies, laws and rules they knew (see Table 5).

Table 5. Policies, laws, and rules identified by the interviewees in relation to sustainable land management

Policy	Laws	Rules/ Regulations
- Land Policy	- Land Act	- No burning of grass
- Forest Policy	- National Environment Act	- Rules on animal grazing
	- Forestry Act	- Stray animal rules
	- Customary land ownership	- Cut one tree, plant ten
	- Clan laws	-Wetland regulations

Q20: Do you think these policies, laws and rules are effective?

The results of the survey showed that 10 (40%) of the respondents think that the policies, laws and regulations are very effective, as opposed to 15 (60%) who thought they are not effective. Out of the 10 interviewees who said policies, laws and rules are effective, three were farmers and seven were leaders. Out of the 15 that claimed that policies, laws and rules were not effective, nine were farmers and six were leaders. There was an interesting difference between the farmers' and the leaders' group.

Q21: What can be done to come up with a better policy on sustainable land management?

When asked for suggestions on how to improve policy on sustainable land management, the respondents came up with eight suggestions. Nine identified training and sensitization and four stated that community consultations could produce workable policies. Others suggested documentation of traditional laws and regulations, community participation, that laws should be reviewed and that traditional leaders should be involved (see Table 6).

Table 6. Recommendations identified by the respondents as to how to come up with better policy on sustainable land management.

Recommendations	Number of responses
Training and sensitization	9
Community consultation	4
Documentation of laws and regulations	3
Community participation	3
Traditional leader's involvement	2
Reviews of the current laws	2
Awareness	1
Improvement in implementation and Enforcement	1

3.10 Challenges

During the survey, some challenges were identified that could affect the execution of the survey and in some cases, might have affected the results.

- The research assistants reported that there was a lot of rain that affected their work. They had to begin working early and ended late at night and this may have forced them to administer the questionnaires faster than desirable to avoid the rain. The data collection might have needed more days in such cases.
- The timing of the interviews was during farming season and most of the farmers wanted to hurry with filling out the form so that they could attend to their gardens. It would be more fitting to do the survey during dry season when there is no farming.
- When the questions were formulated and sent to the field, in some cases the respondents did not understand fully the question about sustainability of land management activity. This may have affected the results. The questionnaires should have been pre-tested and also translated into the local language.
- The research assistants said that some respondents, especially the farmers, took a long time to respond and that this was due to the fact that the survey contained too many questions. This raises the question whether the questionnaire was too long.
- Among the group of leaders interviewed there was only one female respondent. This results in less balance in views from both genders.

4. DISCUSSION

The Centre for Development and Environment based in Bern noted that SLM has been gaining consideration in development cooperation at the international level (Hurni 2000). There are some tools that have been developed recently that can enable multidisciplinary participation. These tools look at the traditional and the scientific methods which involve all stakeholders. This is important, since scientific and indigenous knowledge have been evolving differently (Hurni 2000).

4.1 Assessment and documentation of the sustainability of current land use activities and the feasibility for upscaling these activities

In this section, the criteria for assessing the sustainability of land use activities is addressed and the current land management activities looked at in the light of different elements of sustainability and of the results of the survey.

Kahn, as cited in Basiago (1999), came up with a simple developmental theory looking at social, economic and environmental sustainability (see table 7). According to the theory there are three major pillars of sustainability, namely: 1- Social sustainability, 2- Economic sustainability, and 3- Environmental sustainability. Further, criteria can be defined which are helpful in assessing the sustainability of policy, programmes and activities (Table 7). The results of the survey can be looked at in the light of the three pillars and the criteria to assess the sustainability of land use activities.

Table 7. Paradigm of sustainable development in Agenda 21 as elaborated by Kahn as cited in Basiago (1999).

Element	Criteria
Social Sustainability	Equity Empowerment Accessibility Participation Sharing Cultural Identity Institutional Stability
Economic Sustainability	Growth Development Productivity Trickle Down
Environmental Sustainability	Ecosystem Integrity Carrying Capacity Biodiversity

Social sustainability

The study showed that the Lamwo Town Council communities are engaged in traditional agricultural activities, mainly shifting cultivation and fallowing. The government and other agencies have supported these activities. Some of these agricultural practices demand that land is cleared by uprooting all the trees to give way to planting and thus reducing the water holding capacity of the soils (Lineger & Critchley 2007). Land use activities like cropland, grazing land and forests need adequate water access for their growth to realize good yields (see Fig 3). Most of the activities identified in the survey have received support from the government.



Figure 3. Traditional farming methods in Lamwo district (photo: Anywar Desmond).

According to the study, community involvement is very high, mainly in planning activities that are organized by the government and non-governmental organizations. Also, during the implementation of activities, according to the study, the communities involve both the technical and non-technical people, and both genders. However, the result indicated that people are generally not involved in the monitoring of these activities. Okaboi et al. (2013) noted that this lack of monitoring and dissemination of results makes the impact of the project minimal within the communities.

The study also reveals that both the men and women participate actively when they are carrying out land management activities, especially the agricultural activities. Women attend fewer community meetings than men and are less represented at both the village and leadership level. So, most of the decisions made lack much input from the women

The results reveal that the interviewees think community participation is very important. The means through which this participation is carried out are community meetings which are mainly mobilized by the clan members and the village members. Knight et al. (2013) note that, in the northern part of Uganda where land is a very important resource, the decisions regarding the use of the land are normally taken by the traditional leaders who always call for community meetings.

This study indicated that the most active medium through which information is reached and passed are community leaders and community meetings. These structures are already established and functional but there is need for strengthening (Knight et al. 2013).

The study showed that most interviewees get their knowledge of activities mainly through the community leaders. The clan meetings and the local council meetings are normally attended by the whole community. The local leaders at the grass roots level are very instrumental in passing on information on land management. Kangalawe et al. (2014) in a study carried out in the Kilimanjaro region, Tanzania, noted that the traditional leaders are very instrumental in passing on the knowledge to the community since they are integrated within the villages and local councils.

According to the study, most of the current activities do not provide enough income to meet the demands of the community and the majority of them have been practicing them for so long and may cause environmental degradation. Hill & Mantilla (n.d.) also carried out a study and found out that although agricultural activities generate a lot of income for some households in Uganda,

other areas like northern Uganda are still getting lesser income because of poverty which makes them vulnerable. Most of the activities could be upscaled in some areas but keen interest should be paid to some areas like monitoring and dissemination of results which could affect sustainability.

Economic sustainability

The study showed that agricultural activities are the major source of income for the communities. The majority of the respondents said that current land management activities do not provide enough income. The major source of income is sesame production which is changing the livelihood of the community but results in degradation of the environment (LDLG 2015). This activity is, however, improving the economic status of the communities (LDLG 2015). The Mercy Corps noted in their report that in 2014, sesame production contributed to 83% of all the agricultural crops in Acholi land which included the Lamwo district (as cited by Proctor 2015).

According to this study, once the agricultural products are harvested and brought home the proceeds are not equally shared between men and women. The men normally take the biggest share of the agricultural products. The World Bank (2014) reported that in Uganda, men tend to be more powerful than the women economically.

There were suggestions in the survey results that women should be provided with more income. Additionally, their rights of ownership and use of the resources in their homes should be strengthened. This could improve the lives of the community members since the women are the ones who are involved in day to day activities in their homes.

Environmental sustainability

Many interviewees stated that the condition of the land is improving. This may simply be because shifting cultivation is carried out where the land is left under fallow. Others stated the land has degraded. The massive clearing of the land can expose it to soil erosion and this has led to the land degradation within the area of study. Hence the fertility of some of the land has decreased (LDLG 2015).

Some respondents said access to water has increased/improved but the majority said that there was no improvement and even some said that the amount of water has gone down. According to NEMA [National Environment Management Authority] (2008), due to increasing activities, the water tables are lowering, hence decreasing the amount of water available for consumption and other uses. This creates more challenges, mainly to women, because they must travel longer distances in search for water and firewood among other household activities.

The results showed that although some of the interviewees said that the fertility of the land has improved there is a clear sign that the environmental conditions of the area are changing over time. The Mercy Corps in their report noted that the current activities are leading to exhaustion of the soil which is environmentally not good (as cited by Proctor 2015). Although some of the activities may help in conserving the environment, there is a lack of systematic monitoring of the environmental conditions. (see Fig.4).



Figure 4. Natural forest conservation, e.g. beekeeping (photo: Anywar Desmond).

Policy

A majority of the interviewees did not know policies pertaining to land management. The ones who knew were the district and subcounty leaders and the NGO's. The respondents were more aware of some of the rules and regulations that are in place. The cultural rules and norms manifest the daily usage of the land. The Mercy Corps in a report noted that the people of the Lamwo district are very knowledgeable about traditional methods of agriculture and further added that local people are not involved in decision making (as cited by Proctor 2015).

The respondents came up with some suggestions for improving policy in the district. This includes that writing of new law may need more community consultation and that some traditional laws and regulations that are being used should be documented. For example, traditional leaders are the ones who take the decisions on behalf of the clan members. This agrees with the policy for Agriculture in Uganda. The Ministry of Agriculture, Animal Industry and fisheries in their National Agriculture Policy also noted that there are weak policies which are affecting the promotion of agriculture in the country and there has been a policy reform that pointed out the need to strengthen the existing policies (NPA 2016).

Assessing sustainability of activities

Of the people who were interviewed, 92% said that there is no monitoring and dissemination of results. This makes the assessment of sustainability very difficult. Some projects show positive trends in economic growth but it remains unclear whether they are environmentally sustainable. The Mercy Corps found that current activity is not environmentally sustainable, there is need for more approaches to be deployed to the farming communities that will make them to become productive and remain resilient (as cited by Proctor 2015).

The current activities can only be upscaled to other areas after assessing the environmental, social and economic acceptability of these projects. There are some obstacles which may hinder the expansion of the current activities to other parts of the district. Dallimer et al. (2016) found that the Kenyan farmers lack records of their activities, which makes monitoring problematic. Monitoring and dissemination of results are not being done by the stakeholders implementing the activities. Further, Dallimer et al. (2016) stated that the lack of monitoring can affect

knowledge transfer regarding good land management activities within the communities in Kenya.

The results of the survey showed that since most of the activities on the land are agricultural in nature, most people are using traditional methods of cultivation. But there are also new methods that are being practiced by the communities (see Table 2). Most of those land management activities are the ones which employ a greater number of people. Damiller et al. (2016), in a report on economics of land degradation in Kenya, also noted that the harvest of the modern farming methods is very low yet it would improve productivity rather than relying on the traditional farming methods.

4.2 Solutions for increasing the participation and involvement of women in the activities

Women in Lamwo are actively involved in the agricultural activities, mainly during the planting and weeding seasons. In other areas, like taking leadership positions in the community structures, trainings and workshops, attending meetings, decision making on ownership and rights over land, most women are left out and this is where there is need for improvement. With all the domestic chores that women are charged with at home, men still give a lot of assignments to their women and this makes them overworked. Sesame production demands much attention and normally women are the ones who are involved in all the stages of planting, weeding, vesting and adding value to it by sorting the product (see Fig 5).



Figure 5. Woman harvesting sesame from Northern Uganda (source: <http://www.trustrade.net/news/72-ugandan-small-scale-farmers-reaping-big-from-sesame>)

Land is the main natural resource for production. There are some traditions in Acholi which say that women should not own land, which makes women more vulnerable.

Several strategies must be put in place to help empower and protect women. Uganda is one of the countries to come up with gender sensitive policies which protect the rights of women but there are challenges in its implementation (Burke & Kobusingye 2014).

International agreements on gender issues have been signed involving a framework for gender advocacy, stressing the roles played by women in developing countries in their daily activities and its effect on the environment (IUCN [International Union for Conservation of Nature] 2013). In Uganda a gender policy was signed in 1997 where women's issues were taken seriously (UNDP 2012). This includes affirmative action, e.g. that each district has women members represented in the parliament and also that women compete with men for positions

for a member of parliament from a district, which gives them more opportunities to be represented at the national level. Additionally, girls upon completing their secondary education, get free points to attend the University. According to IUCN (2013), women who know their rights and have ownership of the land have contributed a great deal to a country's development.

After the harvest and sale of the agricultural products, normally the men in northern Uganda hope to marry another wife, since polygamy is allowed, and this brings about tension amongst the homesteads, especially domestic violence (Amone & Arao 2014). Since women are hardworking, they can be seen as part of the labour force. By having more than one wife, men can increase their income. According to a report by Mungyereza & Ndikuryayo (2009) on a labour survey in Uganda, rural women work 46% more than urban women and 75% of the people are engaged in agriculture.

Studies have shown that men are becoming more aware of negative behaviour towards women and of the importance of women's involvement through the agricultural programmes by building support for the traditional, religious and political leaders, linking them to funding institutions and by having role model homes (Russell 2012).

5. CONCLUSIONS AND RECOMMENDATIONS

Agriculture is the major activity as a source of livelihood for the people living in the Lamwo district. The traditional method of farming is the one which most people prefer. Most of the households have big chunks of land and they always carry out fallowing. The land that is left under fallow is used for grazing and cultivated again after three to four years. Recently improved modern methods of agriculture are horticulture, agroforestry and climate-smart agriculture.

Some land management systems help in maintaining the fertility of the land and others can improve the environmental conditions of the land. In beekeeping, for instance, the bees are normally kept in the natural forests which are taken good care of to prevent fires from burning the vegetation and hence conserving the environment.

The strong structural networks make the usage of the land put under strict laws. However, the implementation of new technologies within the communities hits some obstacles through negative attitudes of the communities because they are used to the traditional systems (LDLG 2015).

One of the main results of this report is that there is a lack of monitoring and dissemination of results. There is no follow-up for the activities that are implemented and this makes the communities lose trust in some of the activities. There is therefore need for improvement in the implementation and follow-up of both the government and non-governmental organization programmes.

The report confirms people's involvement in planning meetings. When people are involved in the whole implementation cycle from planning to monitoring they take up the project with their heart. And it becomes part of them.

Generally, sustainable land management activities can be achieved when we carry out a sustainable development approach where we involve both the local people and the technocrats. Their decisions are very important.

Recommendations:

- Active participation of both women and men in planning, implementation and monitoring of land management programmes and projects. Technocrats and the communities must work together at all levels so that the district can achieve the objectives of expanding the positive sustainable land management services to other parts of the district.
- The community and the clan meetings have proved to be very effective for communication and knowledge transfer, so they should prevail and even be strengthened.
- The Documentation of the policies, by laws, traditional norms and beliefs that encourage the conservation of the environment must be documented and made available to the local communities.
- Special effort be paid to women to take up leadership positions within their communities.
- Demonstration farms or model homesteads should be identified and used as a mean of learning positive land management practices for other farmers.
- There is need to establish a database and document all the positive land management practices within the district.
- Incorporation of this research report into the development plans of the district and other non-governmental plans and programmes.

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APPENDICES

RESEARCH QUESTIONNAIRE

This research is being carried out as a part of training at the United Nations University- Land Restoration Training based at the Agricultural University of Iceland.

The main aim of this research is to document what is called Sustainable Land Management (SLM) and get general knowledge on how the people use the land for economic gains and also the environmental aspects of the activities carried out in the land.

As a key player in sustainable land management you have been selected to participate and give your contribution for this study which is very important for the research.

The interview will take about 30 minutes.

SECTION A

Background information of the interviewee

Name:

Sex a) Male b) Female Age:

Date.....

District..... Subcounty..... Parish.....

Village.....

Category of interviewee

- Farmers, Farmer Groups Traditional (Clan) Leader, Local Council Chairperson
 Subcounty Officials, District official and Representative of the NGOs

Land management activities

1) Name of the land management activities being practised (Tick boxes as many as possible)

- Forest plantation management Agroforestry Rotational system (crop rotation, fallows, shifting cultivation) Grazing land management Water harvesting Small scale irrigation management Wetland protection Energy efficiency Beekeeping, aquaculture, poultry Others (specify).....

SECTION B – Assessment of sustainability

Choose the most important land management activity from question 1

Planning, community participation, implementation and monitoring

2) Is the community actively involved in planning for land management activities?

Yes No

3) Is the community actively involved in the implementation of activities? Yes No

4) Is the community involved in monitoring and dissemination of results? Yes No

5) How is the community involved in planning? Tick as many as possible.

Community meetings, Clan meetings, Subcounty meeting, District meeting,
Others specify.....

6) How are meetings normally mobilised?

Local Council, Clan leader, Parish Chief, Subcounty officials, District officials,
 NGOs, Others name

Socioeconomic impacts

7) Do you think the activity provides enough income for the household? Yes No

8) Do you consider that the government carries out the implementation of the activities in time? Yes No

Gender

9) Are both genders equally involved in the agricultural activities? Yes No

If no, which gender is more involved Women Men

10) Is the distribution of benefits from the production equitable between genders? Yes
 No

If no, which gender gets more benefit Women Men

11) a) Do you think the involvement of women should be improved? Yes No

b) If yes, how do you think that could be accomplished?
.....

Ecological

12) Would you reason that the activity has improved or degraded the environmental condition of the land?

Increased Not increased Decreased

13) Do you consider that access to water has improved since the activity was implemented?

Increased Not increased Decreased

14) Would you consider that the fertility of the land has increased or decreased since the activity was implemented?

Increased Not increased Decreased

Knowledge Transfer

15) How is knowledge transferred on how to use the land sustainably. E.g. how to maintain the environment and how to grow crops and get good yields? Tick as many as possible.

Community Meeting, Clan meetings, Churches, Local Leaders, Radios,

Politicians, Public notices, Subcounty office, District

16) Do you think the information given on sustainable land management is adequate? Yes
No

17) Do you think that the knowledge on land management has increased after the information was given? Yes No

18) Suggest what can be done to improve on the knowledge transfer and spreading of good sustainable land management activities? Tick many as possible.

Meetings, Trainings, Radios notice, Public notices, Others, name

Policy

19) Do you know any policy/laws/rules documented or undocumented, government or traditions rules on land management?

Policy Yes No If yes, name it?.....

Laws Yes No If yes, name it?.....

Rules Yes No If yes, name it?.....

20) Do you think these policies, laws and rules are effective? Yes No

21) What can be done to come up with a better policy on sustainable land management?

.....

Thank you very much for your time.

LIST OF ABBREVIATIONS

ACCS	: Advisory Consortium on Conflict Sensitivity
CDE	: Centre for Development and Environment
IUCN	: International Union for Conservation of Nature
LDLG	: Lamwo District Local Government
LTC	: Lamwo Town Council
NEMA	: National Environment Management Authority
NGO	: Non-Governmental Organization
PRDP	: Peace Recovery and Development Plan
SLM	: Sustainable Land Management
ULLI	: Uganda Legal Information Institute
UNDP	: United Nations Development Programme
UNU-LRT	: United Nations University Land Restoration Training Programme