

Empower Women – Benefit for All

Report

Baseline and Training

Needs Assessment - Agriculture

Uganda



Empower Women
Benefit for All



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Publication Data

© March 2014 WECF

Uganda

Report: Baseline and Training Needs Assessment - Agriculture

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Cover photo: Margriet Samwel, WECF

This publication was realised
with financial support of
Netherlands Ministry of Foreign
Affairs



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List of acronyms

AT Uganda – Appropriate Technology Uganda

CA – Conservation Agriculture

CBA – Community Based Facilitator

EWA – Empowerment of Women – Benefit for All

KACOFA – Kapchorwa Commercial Farmers Association

Mgt - management

NOGAMU- National Organic Agricultural Movement of Uganda

NAADS – National Agricultural Advisory Services

TNA – Training Needs Assessment

VSLA – Village Savings and Loan Association

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1 Introduction

The project partner AT Uganda is implementing a by WECF coordinated project entitled **“Empower Women - Benefit for All (EWA)”** to promote the adoption of environmentally friendly agricultural practices in a gender inclusive manner.

The overall goal of the WECF EWA programme is to contribute to economic and political empowerment of women from low-income rural and peri-urban regions in six developing countries (Afghanistan, Georgia, Kyrgyzstan, South Africa, Tajikistan, Uganda).

The project receives financial support of the **Ministry of Foreign Affairs of The Netherlands**.

The duration of the EWA Programme is from 06/2012 – 12/2015

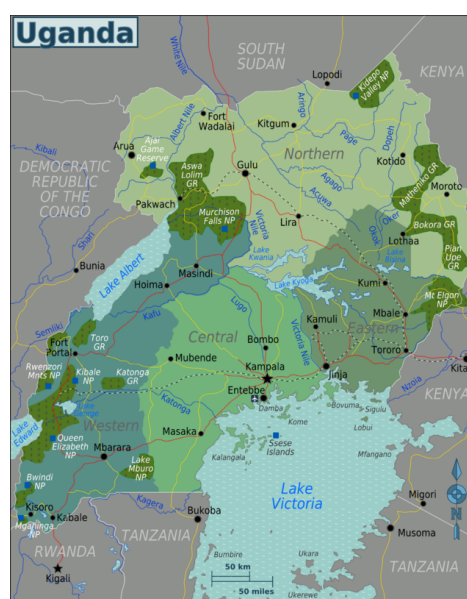
In Uganda the major objective of this project is to improve local livelihoods of women and men through more environmentally friendly agricultural production, carried out in a profitable and business-like manner that empowers and respects the contribution of women, men and youth in the family. In implementation of this project AT Uganda works with local organizations to promote the adoption of environmentally friendly agricultural production in a gender inclusive manner. In Uganda the target districts are Kween and Kapchorwa.

As AT Uganda is interested in strengthening the institutional capacity, skills, and development impact of existing farmer groups, it signed a Memorandum of Understanding to work with the staff of National Organic Agricultural Movement of Uganda (NOGAMU) to implement a number of activities of the EWA project including conducting a baseline Training Needs Assessment (TNA) in the field of agriculture, against which best practices of organic solutions in Conservation Agriculture would be designed.

In this report the proceedings, results and recommendations of this TNA assessment, carried out in autumn 2013, are discussed and presented.



Uganda on the globus



1.1 EWA project Uganda and conservation agriculture

Due to inadequate agricultural technics, the hilly grounds in the target regions are severely affected by erosion. Hence the yields of the main crops maize and beans are poor, influencing the food availability and the level of poverty among the local people. The EWA project was conceived after AT Uganda realised there were some farming practices that required improvement. The so-called Conservation Agriculture (CA) was identified as a possible approach to reduce the erosion and to increase the crop production in the two selected districts in Eastern Uganda: Kween district with in 2012 a population of 103.000 people and Kapchorwa with a population of 114.000 people.

One of the principles of CA is the use of no till systems where farmers practice minimum mechanical soil disturbance which is essential to maintaining minerals within the soil, stopping erosion, and preventing water loss from occurring within the soil.

The other key principle in CA is much like the first in dealing with protecting the soil. The principle of managing the top soil to create a permanent organic soil cover can allow for growth of organisms within the soil structure. Therefore, there is a need to keep the soil covered to protect it from the heavy rains and strong sun rays and ensure continuous build up of soil organic matter.

In the EWA project, AT Uganda decided to promote as one of the project activities CA with a focus on:

- Zero or minimum tillage
- Keeping the soil covered using cover crops or mulch
- Training Community Based Facilitators (CBFs) to assist farmers adopt conservation agriculture practices

1.2 The project area

The project “**Empower Women - Benefit for All (EWA)**” will be implemented in Kapchorwa and Kween districts. AT Uganda works in 5 sub-counties of each of these districts, but is also running a project in Kapchesonbe sub-county.

The two districts are at a high altitude where the average altitude in Kapchorwa is 1800 msl and Kween is 1900 msl. There are areas in these two districts however that are situated at higher altitudes e.g. Kwosir at 2400 msl.

Kapchorwa district is composed of 16 subcounties: Kaserem, Amukol, Cheptarech, Gamogo, Kawowo, Kapsinda, Sipi, Munarya, Kabewya, Chema, Tegeres, Kapteret, Kaptanya, Kapchorwa T. C. and Kapchesonbe.

Kween districts is composed of 11 sub-counties including: Benet, Kaptoyoy, Kitewoi, Kwosir, Kwanyiy, Moyok, Giriki, Ngenge, Binyiny, Kaptum and Kaproron.

The soils have varying characteristics, ranging from deep fertile soils (volcanic alluvial, well drained loam to black loams over red sandy clay loams), to highly acidic soils. Some parts of the districts were formerly forested, but there has been total deforestation due to high population pressure.

Agriculture is the major source of livelihood in the two districts. The main source of cash income is sale of crops and livestock. Common crops include coffee, banana, maize, beans, wheat, Irish and sweet potatoes. Characteristic challenges include crop pests and diseases, livestock diseases, fluctuating crop prices, soil erosion and degradation, and high population density. Coping strategies include improved farming practices and diversifying crops.

2 Conducting needs assessment

2.1 Group Meetings

The assessment team met and discussed with group leaders from 4 sub-counties including Kaserem and Kapteret sub-counties in Kapchorwa district, and Benet and Kwosir sub-counties in Kween district. More details about the group meetings are shown in table 1.

The number of members present during the assessment meetings varied from one area to another. This was caused by the presence of other activities that were taking place at the time of the assessment. These activities included burial of the dead, sub-county budget conferences and a religious conference at one of the venues where the assessment had been scheduled to take place.

Over 60 percent (98 out of 163) of the members who attended the assessment meetings were women. The major reason for this is that the bigger percentage of the participating groups is women groups. This is a very strong point for the project implementation, which focuses on improving local livelihoods of women and men through more environmentally friendly agricultural production.



Training Needs Assessment meeting with Tuban Organic Farmers Association (TOFA)

Table 1: Groups Interacted With During the Training Needs Assessment

District	Sub-county	Parish	Name of group	Members Present		
					Men	Women
Kapchorwa	Kaserem	Kaserem	Kaserem Area Cooperative Enterprise (ACE)	30	11	19
	Kapteret		Tuban Organic Farmers Association (TOFA)	59	9	50
Kween	Benet		KACECO watershed (KACOFA)	57	35	22
	Kwosir	Tuikat	Tuikat watershed initiative	17	10	7
TOTAL				163	65	98

3. Findings

3.1 Priority crops

Priority crops chosen by the different groups varied across the different sub-counties. Although maize and beans featured across all sub-counties, their priority changed ranks from one sub-county to another.

The farmers' major criterion for choice for each crop depended mainly on contribution to food and cash income. It can be deduced from the assessment however, that maize is more important in the higher altitude sub-counties of Benet and Kwosir, while coffee and banana are more important in the medium altitude areas (Kaserem and Kapteret sub-counties). In all the four sub-counties, and probably across the 2 districts (Kapchorwa and Kween) maize, the staple food is planted only once a year, while beans are planted twice a year. Maize is planted once, because it is a long season crop (6 months), but all other crops are planted twice a year.

Across the four sub-counties, the ranking of crops varied between men and women. In Kaserem sub-county, most of the women regarded banana as the most important because it is both a food and cash crop and has continuous harvest. This was followed by maize, which is their staple crop, but also sold for cash. The men on the other hand, regarded coffee as the most important because it is their main source of cash.

In Kaptaret sub-county, all the crops mentioned in Table 2 doubled as food and cash crops. The men felt that coffee was more important than banana as a cash crop. The women however felt that coffee ranked far lower than bananas, because coffee sales were only twice a year, yet bananas provided food and could be available for sale throughout the year. About 50 percent of the members that attended the meeting grew tomatoes twice a year.

In Kwosir sub-county, barley was preferred to wheat because it was a better cash earner, its straw decomposes faster than wheat, it has a short maturity period and it has higher yield compared to wheat.

Table 2: Priority Crops across Sampled Sub-counties

Kaserem	Kaptaret	Benet	Kwosir
Coffee	Banana	Maize	Maize
Beans	Maize	Wheat	Irish potato
Maize	Beans	Irish potato	Barley
Banana	Potatoes (sweet potato and Irish potato)	Banana	Beans
	Vegetables (Tomato, cabbage, kale, onions)	Beans	Onions
			Other crops: cabbage, kale (Sukuma wiki), banana, wheat

3.2 Seasons

The two districts, Kapchorwa and Kween, experience a characteristic one long rain season, April to November, but which is perceived by farmers as 2 crop seasons. The two crop seasons somewhat merge into one another, but the farmers had a very clear distinction of the crops which should be planted at the particular times. Based on the information given to the assessment team by the farmers, it was noted that in the medium altitude areas (Kaserem sub-county) the crop season started and ended earlier than in the higher altitude areas (Kwosir). All farmers noted that late planting exposed crops to aphids. The details about seasons are shown in Table 3.

Table3: Seasons and Crops Planted in Kapchorwa and Kween Districts

Sub-County	First Season	First Season Crops	Second Season	Second Season Crops
Kaserem	March to July/August	beans, maize, banana	August to November	beans, g nuts
Kaptaret	April to July		August to November/December	
Benet	March to July	maize, beans, Irish potato, wheat	July/August to December	wheat, beans, Irish potato
Kwosir	April to July	Irish, maize i.e. all crops	August/September – December/January	

3.3 Access to Land

The major economic activity in both Kapchorwa and Kween districts is agriculture, dominated by crop farming. Livestock husbandry used to be the major source of livelihood 50 years ago, but this was *changed by cattle rustlers*.

The result of this is severe population pressure on land. The average land holding per farmer varied from one sub-county to another (Table 4) and ranged from 1 to 3 acres.

The smallest piece of land cultivated by a farmer across the 4 sub-counties was 0.5 acres. According to information obtained from the assessment Kaserem sub-county seemed to have the highest pressure on land. Although the pressure on land is high, it is possible to find some land for hire. The terms of access to land however vary from one sub-county to another. This may be influenced by cultural values.

Table 4: Access to Cultivable Land in Kaserem, Kapteret, Benet and Kwosir Sub-counties

Sub-county	Average land holding per farmer (acres)	Range of acreage across farmers (acres)	Average land available for hire per farmer (acres)	Average land hire rates (/acre/year)	Remarks
Kaserem	1	0.5 to 3	3	150,000/=	<ul style="list-style-type: none"> Only seasonal crops are accepted on hired land. Both gender are free to hire land.
Kapteret	2	0.5 to 3	2	100,000/=	
Benet	3	0.5 to 10 acres	1	150,000/=	Women are not entitled to hire land. If one did, the man is free to take over use of that land.
Kwosir	3	0.5 to 4 acres	1 to 2 acres		In this area people do not hire out land. You can only mortgage land. If one lends you money e.g. 1m, he has to cultivate your land until you pay back the 1m.



The assessment team assessing farming practices on farmers' fields in Kapchorwa district

3.4 Farming practices

Farm activities were quite similar across all sub-counties, generally starting with first ploughing in January and second ploughing in March/April (Table 4.5) as the rains start.

In Kwasir sub-county however, there was a difference in timing and frequency of farm activities among farmers inhabiting the different altitudes of the same sub-county.

The use of herbicides and chemical pesticides is relatively higher among the cereal and vegetable enterprises, compared to the coffee and banana enterprises.

For livestock management, most farmers do zero grazing. Feed sources for the livestock include the following:

- Reserving about 0.125 acres for growing Napier grass
- Planting Napier grass along boundaries and soil bunds
- Using banana pseudo stems after harvest, banana leaves and suckers



A woman taking a banana pseudo stem home for livestock feed

3.4.1 Indigenous Knowledge and Sharing

There was a general lack of indigenous knowledge, experience and initiative towards pest and disease management in both crops and livestock, as well as soil fertility management. All pest and disease management practices were geared towards chemical pest control.

At Kaserem, 3 farmers out of the 30 farmers that attended the meeting had good knowledge about alternative environment friendly methods that could be used for pest and disease management both on crops and livestock. This knowledge however had not been shared among group members because of various reasons. Some of the group members had ever heard of herbal pest control but had not tried it.

All farmers declared the need for training on alternative methods of pest management and a sharing session where group members would have a chance to share indigenous knowledge and the various alternative control methods they knew.

Reasons for not using herbal pest control included fear to be associated with witchcraft and lack of knowledge about available options.

In Benet sub-county, only one farmer had tried wood ash on maize against the maize stalk borer and it worked. The pastor tried controlling BBW with wood ash, salt and animal urine and it worked. This information had not been shared among members of the group.

In Kwasir sub-county, one farmer tried wood ash on maize stalk borer, but it didn't seem to work. This could be an indication that the natural pest management system had already broken down. During the group discussions, farmers told the assessment team that in olden days there were no pests. They noted that there are many pests now because there are more crops now. One farmer thought there are more pests now because of mono-cropping, lack of fallow periods, deforestation and high population pressure.

Table 5: Common Farm Activities and Pest Management

Common Farm Activities	Land preparation	Planting	Weed control	Pest control	Outstanding Observations
Kaserem	Land is ploughed twice mainly with ox ploughs, tractor, but can also be by hand hoe for those who cannot afford oxen/tractor	All crops are planted in rows	<ul style="list-style-type: none"> • Mostly done by women • The hand hoe is the commonest implement for weeding all crops 	Use chemicals	Maintaining recommended plant population is still a challenge, especially in banana/coffee
Kapteret	Fields ploughed twice, January and April before planting	<ul style="list-style-type: none"> • Usually Bananas intercropped with coffee • Maize almost always intercropped with beans • Vegetables tomato, cabbage, kale, onions were planted one after the other. 	<ul style="list-style-type: none"> • Weed control starts 3 weeks after planting • Usually no herbicides used because weeds are manageable in most crops • Herbicides only used in banana as weeding can be up to 5 times a year when there is a lot of rain. 	<ul style="list-style-type: none"> • About 50% of the farmers used chemicals on beans every time they planted. • All farmers sprayed chemicals on tomato, cabbage and kale. 	<ul style="list-style-type: none"> • Intercrop-ping is a common practice. • Farmers said if you do not spray, you may end up reaping nothing, so no one wants to take that risk.
Benet	Starts with slashing, First and second ploughing with oxen or hand hoe; Fertiliser application and planting. All farmers apply fertilizers at least once, usually as top dressing.		All crops are weeded twice per season, except wheat where a selective herbicide is used.	<ul style="list-style-type: none"> • Done with chemicals • No local methods of pest management used 	
Kwosir	<ul style="list-style-type: none"> • Starts with slashing but no burning • First ploughing using oxen; second ploughing then wait for rain • Looking for seeds 	Late March/April – start planting	<ul style="list-style-type: none"> • First Weeding done in May • Second weeding and top dressing done in June, as well as application of pesticides 	All farmers use chemical spray	Farmers aware of negative effects of bush burning

3.4.2 Knowledge about Ecological Organic Agriculture (EOA)

Members of the various farmer groups that participated in the assessment could not define Ecological Organic Agriculture (EOA) but had some knowledge of EOA practices. One farmer explained it involved use of manure and was the opposite of using chemicals. This means there is need to introduce Ecological Organic Agriculture principles to the farmer groups, as a basis for developing conservation agriculture.

3.4.3 Available resources that can be used in conservation agriculture

In the project area, the assessment team observed several resources that could be used as a basis for developing conservation agriculture. These resources included indigenous herbs, nitrogen fixing plants and trees that could be used as sources of mulch, feed, fuel wood, as well as protecting the soil from harsh weather conditions without the risk of further encroaching on the farmers' farm land resources. Out-standing herbs and plants for this purpose included Tithonia, Mucuna, Clotallaria, Tephrosia and Sesbania.



Clotallaria plant with root nodules



Farmer displaying Clotallaria; Sesbania plant growing in the background

The assessment team also observed that besides the area along the soil bunds, terraces and hedges, where forages and multipurpose trees could be planted, there were several idle pieces of land that could be used for the same purpose. These could be identified in group-sessions so that all farmers become aware of them and utilize them for that purpose.

3.4.4. Soil fertility and soil erosion management practices

There was sufficient awareness and knowledge about the need for soil management and soil erosion control among the farmers, although the number of viable options to address these two issues seemed to be limiting. The major available option for soil fertility management seemed to be chemical fertilizers, while soil erosion control was mainly by maintaining terraces and grass strips.



Tithonia (yellow flowers) growing along the road



Areas that can be used to grow forage

These two options however, were not able to improve the soil properties and curb the rampant wind erosion, especially during the dry season when land was left bare after the first ploughing.

- **In Kaserem sub-county**, the majority of the farmers used some organic manure at least once a year.
 - The different types of organic manure used by farmers (Table 6) included cow dung, poultry manure, goat manure, and bats manure from caves especially for maize.
 - Some farmers relied on buying animal manure from farmers in the plains at 160,000/= for Isuzu short chassis (manure 20,000/= + loading 10,000/= + transport 120,000/= + off loading 10,000/=) and 350,000/= for Isuzu long chassis.
 - About 16 percent of the farmers could afford to buy the organic manure from the plains. Others bought manure from neighboring farmers or used what they collected from their own animals. There were those farmers too who could afford neither chemical nor organic manure.
- **In Kapteret sub-county**, all members had some livestock so they were able to collect some manure to apply to their gardens.
 - In addition, some members bought composted animal manure from the low lands at 15,000/= per bag of 70kg. Some farmers used chemical fertilizers.
 - About 20% of the farmers that attended the assessment could consistently afford artificial fertilizers and applied them twice a year.
 - There were also some farmers who could not afford artificial fertilizers and did not have enough animal manure. Such farmers simply planted and harvested whatever comes out of their gardens.
- **Farmers in Benet sub-county** exclusively used chemical fertilizers.
 - Very few farmers in Benet used animal manure, because most cattle were taken by cattle rustlers (Karimojong and Pokot).
- **In Kwosir sub-county**, chemical fertilizers were mostly used especially on maize, barley and wheat.
 - Animal manure was used on a very small scale.
 - About 35 percent of the famers used animal manure occasionally when they collected from their animals.
 - There seemed to be an increase in the number of strategies used by farmers on soil erosion with the increase in altitude and the general slope of the land.
 - Farmers in Kwosir employed more strategies against soil erosion than those in the other 3 sub-counties.

Table 6: Soil Management Options and Soil Erosion Control Strategies

Sub-county	Kaserem	Kapteret	Benet	Kwosir
Soil fertility options	<ul style="list-style-type: none"> • Organic manure • Chemical fertilizers 	<ul style="list-style-type: none"> • Organic manure • Chemical fertilizers 	<ul style="list-style-type: none"> • Chemical fertilizers 	<ul style="list-style-type: none"> • Chemical fertilizers
Soil erosion strategies	<ul style="list-style-type: none"> • Grass strips 	<ul style="list-style-type: none"> • Trenches • Mulching 	<ul style="list-style-type: none"> • Terraces • Grass strips 	<ul style="list-style-type: none"> • Contours • Terraces • Grass strips • Hedges • Tree planting

Soil erosion management strategies used by farmers include contour ploughing, making trenches, control ditches, terraces, planting grass strips, planting trees, mulching and land fallowing for 2 years under livestock. The trees planted to improve the soil and contribute to soil erosion control include Grivellia, Sesbania and Calliandra.

In Kapteret, about 50% farmers made trenches and about 75% tried to mulch their banana and coffee to control soil erosion and maintain moisture. Some farmers mulched their gardens using compostable household refuse.

The major sources of mulch to farmers in the assessment areas included banana leaves and fibers, banana pseudo stem after harvesting, excess grass during the rainy season, maize stalks and grass from clearing fields.

In some areas like Kaserem and Benet however, there were major challenges concerning mulching. These challenges included:

- The would-be-mulch (banana pseudo stem) is used to feed livestock
- Grass for mulching is not available
- Lack of knowledge on benefits of mulching
- Limited land so farmers cannot reserve a plot to grow mulch materials
- Poultry scratch mulch laid in gardens
- Mulch materials (maize stalks) are used as fuel
- In the low lands there is a threat of wild fires during the dry season

3.5 Access to extension services

There were a number of organizations offering extension services to farmers and farmer organizations in the assessment area. Sectors covered by the different organizations ranged from Agriculture, Cooperatives, Cross border trade, Microfinance, Information, Community development to Reproductive Health.

NAADS, a government agricultural advisory service organization featured strongly in all the 4 sub-counties. Major activities of NAADS were centered around training on farming techniques and distribution of free inputs like seeds, fertilizers, herbicides and livestock. There were several other organizations offering the same services in the project area.

Organizations that supported farmers on marketing, market information and trade included UCA, KACOFA, KAWACOM, Grameen Foundation and AGMAC.

Financial services were widely supported by Centenary bank and BRAC and FINCA were mentioned among microfinance service delivery organizations among the farmers.

The biggest number of organizations providing extension services was reported in Kapteret sub-county (11 organizations). This was followed by Kaserem, where 9 organizations were reported. This implies that there is a good potential for collaboration to improve livelihoods of women and men in the different farmer groups.

Table 7: Organizations Offering Services across the Four Assessment Areas

S-county	Kaserem	Kapterek	Benet	Kwosir
Organiza-tions	<ul style="list-style-type: none"> • NAADS • NUSAF • Uganda cooperative alliance (UCA) • Kapchorwa commercial farmers association (KACOFA) • AGMAC • Grameen Foundation KAWACOM • FAL • Marie Stopes (9 organisations) 	<ul style="list-style-type: none"> • NAADS • NUSAF • ULAMP • Action aid • Compassion • KAWACOM • BRAC • FINCA • FAL • Kapchorwa civil society organization • Family planning (11 organisations) 	<ul style="list-style-type: none"> • NAADS • Action aid • Food for the Hungry • KACOFA • Grameen Foundation • NARO • ICRAF • Kapchorwa Land Care <p>(8 organisations)</p>	<ul style="list-style-type: none"> • NAADS • NUSAF • NARO BugiZardi • Kapchorwa District Land Care (KADLACC) <p>(4 organisations)</p>
	Kaserem	Kapterek	Benet	Kwosir
Services offered	<ul style="list-style-type: none"> • Training • Giving seeds, livestock • Information used to link 	<ul style="list-style-type: none"> • Training on coffee management, 	<ul style="list-style-type: none"> • Training on Farming techniques, crop production, barley 	<ul style="list-style-type: none"> • Training on farming techniques

	farmers to markets using phones • Information on pest management • Information on markets , Market linkage • HIV/Aids • Gender • Training on savings, use of herbicides, marketing • Training on how farmers can trade across countries • Build schools/staff houses • Construct feeder roads • Buy coffee • Training on coffee quality management • Training on Adult literacy • Family planning	Dairy and Poultry management, fertilizer application, HIV/Aids, Gender, Adult literacy • Giving seeds – maize, bean • Give livestock – dairy cattle • Information on markets • Market linkage • Build schools/staff houses • Construct feeder roads • Family planning	planting technique, Soil and water conservation, land management, savings • Giving Seeds, fertilizers, herbicides, tree seedlings • Community knowledge workers have phones they use to give farmers info on markets and pest management • Build schools • Support pupils with school fees, uniform • Construction of schools, health centers • Buy land for schools for farming	• Providing Irish potato Seed for multiplication, goats, cows, tree seedlings • Build bridges • soil samples taken by NARO to estimate soil lost due to erosion but results not yet returned
Remarks				But NAADS and NUSAF are political

3.6 Marketing of agricultural produce

Apart from Kaserem ACE, all farmers sell their produce as individuals except that produced on the group gardens (Table 8). The initiative of group marketing has not yet taken root among the farmer groups, although there is potential for some market information, which can be used by the farmers to secure good markets for their agricultural produce.

Table 8: Marketing of Agricultural Produce and Related Challenges

Sub-county	Kaserem	Kapteret	Benet	Kwosir
Group Marketing Basis	Coffee, maize and beans	The group has a group garden of tomato and kale and these are sold together as a group.		
Individual Marketing Basis	Banana	Banana and coffee are grown on individual basis and they are sold on individual basis.	All farmers sell as individuals except produce produced on the group garden.	Farmers sell individually because they have different problems
Challenges In Marketing	Transport to collection centers at member organizations Price fluctuation Inadequate funds			Poor road network, too much rain Post harvest handling – use sickles for harvesting, no proper drying facilities

One of the reasons given by farmers for continuing to sell their produce as individuals yet they are already organized in groups was that they have different problems. This indicates that there is need for sensitization and training on community development so that farmers give up individualistic assessment of common constraints that lead to individual problems. Such constraints identified by farmers during the assessment are elaborated below.

3.7 Identified Challenges to Agricultural Production

Farmers identified several challenges met during the entire production cycle and marketing. Some of the challenges were related to changes in the weather patterns, physical infrastructure, farming practices, investment capital, while others concerned with group dynamics. Farmers did not seem to have many viable solutions to the identified challenges. They basically had one option to the unpredictable weather. This option was diversification of the crops grown, as some crops/varieties were more tolerant than others.

Details about the challenges are elaborated below.

- **Soil erosion:** Farmers make terraces, contour bunds, control ditches and several soil erosion structures, but still there is soil erosion.
- **Seed:** Seed is expensive and usually imported from Kenya because there is no reliable source of seed suitable for high altitude areas on the Ugandan side. This leads to occasional delays in delivery of seed, because of customs procedures. Mt. Elgon Seed Company is trying some seed locally but it is not yet out. This challenge has amalgamated into some middlemen supplying fake seeds, causing losses to various farmers.
- **Pests and diseases:** Some banana plantations have been severely attacked by Banana bacterial wilt (BBW) and this has led to severe reduction in available food and income for some farmer families. Farmers also noted that there has been a steady build up of pests and diseases, which require continuous use of stronger pesticides. This leads to increase in the farmers' cost of production.
- **Unpredictable weather:** Sometimes there is a lot of mist, which affects vegetables. This means use of more fungicides.
- **Lack of water pumps:** There is a potential for vegetable growers to plant up to 4 times a year but this cannot be fully exploited due to lack of irrigation equipment. If the farmers had water pumps, vegetable farmers could utilize all the 4 seasons in a year. Currently, the period January to April is wasted because of drought.
- **Limited capital:** Some farmers get loans from centenary bank, BRAC and money lenders, but the interest is high ranging from 10 to 20 percent.
- **Marketing:** There is no nearby market so farmers have to rely mostly on middlemen who give them a low price for their produce.
- **Price Fluctuations:** During the harvest season, there is a lot of produce available for sale. Buyers tend to pay floor prices for farmers' produce. This situation is worsened by lack of storage structures where farmers can store produce while waiting for better prices. Some farmers cannot store their produce to wait for better prices because of immediate needs that they need to meet.
- **Poor infrastructure:** The roads in rural areas are in a very bad condition, especially during the rainy season. The poor road network makes transport very difficult so farmers end up selling their produce to middlemen at very low prices.
- **Lack of trust in groups:** Farmer-groups would be a very important asset in marketing farmers' produce at a good price. There is however a general lack of trust in groups due to suspicion and malpractices by some leaders e.g. group treasurer can use group money.

4. Training needs

The assessment team discussed with farmer groups about what the farmers would like to learn to be able to increase their farm productivity and improve their livelihoods. The results of these discussions are listed in Table 9, reflecting responses to the most pressing challenges in each sub-county.

While some farmers specified the demonstrations they need in their community, others felt that these would be better identified after the training on organic agriculture. There were other needs that are not directly related to training, but which the farmers felt AT Uganda could help alleviate. That needs mainly concern seed, marketing of farm produce and microfinance services.

Table 9: Identified Group Training Needs

Sub-county	Kaserem	Kapteret	Benet	Closer
Training Needs	<ul style="list-style-type: none"> Forage development Record keeping Soil management Alternative methods for control of pests and diseases Farming as a business Group dynamics 	<ul style="list-style-type: none"> Forage development More ideas on management of BBW How to generate more compost Natural fertilizers Soil fertility improvement Collective marketing Making business plans Managing coffee pests and diseases e.g. coffee wilt Savings and credit schemes Fake seeds Organic pest/disease/weed management How to make organic pesticides Value addition/processing of vegetables Storage of perishables e.g. tomatoes 	<ul style="list-style-type: none"> Training on Saving culture to be able to overcome challenges of loans How to organize group marketing To learn about inputs that can be used without having to buy them Solutions on pests and diseases which are becoming stubborn Agronomy of different crops Exchange visit to learn how others farm and do group marketing without a store Storage of perishables e.g. tomatoes i.e. Post harvest handling 	<ul style="list-style-type: none"> How to make energy saving stoves Savings and credit schemes (VSLA) Farming without oxen ploughs to reduce erosion Handling of organic manure Organic pesticides – IPM Group dynamics/group development Livestock mgt including piggery Exchange visits on soil erosion management Record keeping Proper harvesting of honey On farm sources of fuel wood Tree nursery management Fish farming
Required Demonstrations	<ul style="list-style-type: none"> Soil fertility mgt because people are poor and many cannot afford chemicals Pest management More knowledge on mulching Crop rotation 			
Other Needs	<ul style="list-style-type: none"> Early distribution of seeds so that 		<ul style="list-style-type: none"> Soft loans of fertilizers and seeds 	<ul style="list-style-type: none"> Bull scheme because there is no access to AI

	farmers plat in time ▪ Provision for money for farmers to buy manure ▪ Market research for more market linkage		▪ One big store for group marketing ▪ Financial support e.g. giving loans on fertilizers, seeds ▪ New crops e.g. apples, tea	▪ Source of good quality Irish potato seed. NAADS also buy from the local market and distribute to farmers for multiplication.
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5. Conclusions and Recommendations

5.1 Conclusions

The baseline Training Needs Assessment (TNA) was conducted in a participatory manner that was inclusive on men, women and youth. The results show that farmers had adopted good farming practices, but there was still a gap that requires to be filled to enable farmers to implement sustainable agricultural practices.

The TNA also revealed that farmers were willing to learn new methods that can help them reduce soil erosion, increase productivity and reduce production costs.

The EWA project which focuses on conservation agriculture is a timely initiative that can take advantage of the existing conditions and resources to help farmers improve their farming practices in a sustainable manner.

5.2 Recommendations

Based on the results of the TNA it is recommended that tailored training for Community Based Facilitators (CBFs) are designed to cover the following broad topics:

- 1) Ecological Organic Agriculture Principle and Practices
 - a. Soil Health: the soil as living medium (management strategies, soil fertility, compost, cover crops, nitrogen fixing plants, soil conditions, soil erosion)
 - b. Mulching (benefits, sources, methods, challenges, how to develop on-farm sources of mulch)
- 2) Weed management (strategies, effects, cover crops, planning)
- 3) Integrated Pest Management (including BBW, wilting in coffee)
- 4) Pest Management under Organic Agriculture Systems
- 5) Livestock management - Forage development, Fish farming
- 6) Fuel wood in farming systems (Multi-purpose trees/shrubs, on-farm sources)
- 7) How to make energy saving stoves
- 8) Gender - gender mainstreaming, gender faces of food, marketing
- 9) Farming as a business, Record keeping
- 10) Group dynamics, Collective marketing, Access to genuine inputs, Making business plans
- 11) Value addition/processing of vegetables, Storage of perishables e.g. tomatoes
- 12) Savings and Credit Schemes (VSLA)
- 13) Proper harvesting of honey
- 14) Tree nursery management

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