Bringing evidence to bear on negotiating ecosystem service and livelihood trade-offs in sustainable agricultural intensification in Tanzania, Ethiopia and Zambia as part of the SAIRLA program

Participatory Identification of Prioritized SAI Practices and Indicators of Success in Solwezi District, Zambia (St. Francis and Mutanda Camps) 1- 2 March 2017. Workshop report


St Francis


Mutanda

Report prepared by Kasonde Zimba (ZARI), Evans Mtonga (SOlwezi District Agricultural Officer), Patricia Masikati (ICRAF), Christopher Mwansa Chaponda (Ministry of Agriculture) and Rosemary Patamu Hachoobe (Ministry of Agriculture)

Funded by: UKaid from the British people

Managed by: wyg and University of Greenwich Natural Resources Institute

Table of Contents

I. Introductions and welcome remarks 4

1.1 Participant's expectations 4

1.2 Meeting objectives 4

II. Exercise One: Visioning exercise by gender 5

2.1 St Francis 5

2.2 Mutanda 9

III. Exercise Two: Farmers indicators of success by gender 11

IV. Exercise 3: Prioritized list of SAI practices by gender 15

V. Exercise 4: Ranking/Prioritization of SAI practices by gender 17

VI. Exercise 5: Farmers sign up to trial the proposed SAI practices 20

VII. Conclusion 20

VIII. Annex 1: Participatory Workshop Program- 1-2 March 2017 21

IX. Annex 2 Attendance Register – St. Francis Camp 22

X. Annex 3: Mutanda Agriculture Camp Register 24

The Sustainable Intensification of Agricultural Research and Learning in Africa (**SAIRLA**) Programme is a UK Department for International Development-funded initiative that seeks to address one of the most intractable problems facing small-holder farmers in Africa - how to engage in the market economy and to deliver sustainable intensification of agriculture, that is, which avoids negative impacts on the environment. SAIRLA will generate new evidence to help women and poor African smallholder farmers develop environmentally and financially sustainable enterprises and boost productivity. The research will focus non-exclusively on 6 countries (Burkina Faso, Ethiopia, Ghana, Malawi, Tanzania and Zambia), thus complementing other research efforts in these regions.

Suggested citation:

Zimba, K., Mtonga, E., Masikati, P., Chaponda, C.M., and Hachoobe, R.P. 2017. Participatory Identification of Prioritized SAI Practices and Indicators of Success in Solwezi District, Zambia (St. Francis and Mutanda Camps), 1- 2 March 2017. Workshop report. World Agroforestry Centre (ICRAF), Kenya.

I. Introductions and welcome remarks

Meetings were held in two camps namely St Francis and Mutanda on 1st and 2nd March 2017. Annex 2 has the full workshop program. The two sites within Solwezi district and within one hour of Solwezi town. For example, St Francis is about 45 km (mostly gravel road) and Mutanda 35 km (all tarred road) from Solwezi town. In both sites, meetings started after 10 am, delay was mainly caused by heavy rains. However a good number (St Francis 42 and Mutanda 43) of farmers turned out with good gender representation (Females 23, 20 and Male 19, 23 for St Francis and Mutanda, respectively). In attendance were farmers, veterinary officers, School headmaster, Parish Sisters and also the health and environment officer. Introductions were done by the Camp Officers in collaboration with Camp Agriculture Committee Chairpersons. General introductions were followed by project introductions which were done by Patricia Masikati of ICRAF and Kasonde Zimba of ZARI. Highlighted were mainly the project objectives, project sites and also explanation of the term sustainable agriculture intensification (SAI). It was also explained that the meeting was a direct follow up of the stakeholder meeting that was held in Solwezi in September last year. We had two farmers who participated in the September meetings in St Francis. Meeting objectives were given and after that farmers were asked for their workshop expectations. Participant expressed their expectations as indicated below.

Table 1: Participants by gender and camp.

Camp	Female	Male	Total
Mutanda	20	23	**43**
St. Francis	23	19	**42**

1.1 Participant's expectations

1. Clarify the number of farmers to be engaged in the trials
2. Learn more about SAI and also to practice it
3. Improve food security for the households
4. Disseminate lessons learnt to others
5. Learn other new farming systems to avoid shifting cultivation
6. Learn, implement and teach other farmers SAI practices
7. Understand the feasibility of SAI and its benefits
8. Expecting start up packs
9. Capacity building in new technologies

1.2 Meeting objectives

1) To identify the vision of agriculture for the farming community – by gender
2) To identify gendered farmers' indicators of success for agricultural systems
3) To develop a prioritized list of SAI practices by gender

4) To identify 'root causes' of non-adoption of SAI
5) To identify farmers willing to trial the SAI options on their farms

This was followed by Mr. Zimba explaining the first exercise and also division of farmers into four groups. Groups were by gender and villages (farmers from villages within the same camp zone). On average participants were about 10 per group. Meeting objectives were also put up on a flip chart for reference.

II. Exercise One: Visioning exercise by gender

Figure 1: Presentation of the male and female groups of the visioning exercise.

2.1 St Francis

Farmers understood the exercise very well and were able to make maps of their villages for the different time scales. Due to time limitations only two groups made presentations (female and male groups). However, each group had an opportunity to present the different exercises. Below are pictures of the groups from the camps and also included are the highlights of the presentations and also contributions and questions from the other participants.

Summary of the challenges from ten years ago

Farmers used to have grass thatched houses, children mainly boys (and very few) were able to go to school. Children had challenges going to school as parents would prefer to have them working in the fields and for other chores such as collecting mushrooms and firewood. Parents could not afford sending children to school due to financial constraints and mostly girls were disadvantaged. There were also no proper bridges, most were made of wooden poles hence not many modes of transport would access the area and it was difficult for children to go to school during the rainy season. Farming was mainly shifting cultivation and deforestation was high. They used to cultivate only pearl millet and sorghum mainly for home consumption. Carrying of the harvest was done manually by carrying on shoulders or head. The

only livestock that most farmers had were chickens. Although they were cultivating, yields were low and most farmers would not have enough to last one season, e.g., most households only had one meal per day. They were also practicing mixed crop production (one field/plot would have different crops) and there was no proper recording of yields. Transport was a problem and they would walk very long distances.

Summary of the current scenario

Through improved farming practices, yields are higher. In addition, the income from crop production has enabled the farmers to purchase zinc roofed houses (for one room mostly). With conservation farming they are able to sell different farm products and livelihoods have improved. For example, they have bicycles, motorcycles, cars and improved food security. Children (25% are girls) are able to go to school, most households can afford two meals a day, there is reduced indiscriminate cutting down of trees (mainly for cultivation) and most farmers are using better farming practices and having better yields. They are now growing different crops on different fields/plots and are practicing crop rotation and can account for crop yields better. There is available market for maize mainly, the Food Reserve Agent (FRA) and also "briefcase traders" for other crops and transport has improved. They are no longer burning crop residues as they use them for mulching and also as compost.

Future Scenario

They want to have "Nigeria houses" better, bigger houses which will be electrified with different home appliances. Improved food security at both household and community level, and they would like to have enough food for four meals per day. They want to be able to send all their children to school and that they also attain high qualifications at colleges (become graduates). They would like to own lorries for transporting goods and farm products. They would also like to improve farming accountability, have mechanical farm equipment, a shift from use of chemical fertilizers to organic fertilizers and practice agroforestry and SAI with proper links to good markets. They want to have better bridges. Farmers stated that they want to diversify into forest products such as bee keeping and conserve trees and nature.

Figure 2: Vision sketches drawn by the male groups from Kalala village in St. Francis camp.

For example, as illustrated in Figure 2, Kalala village highlighted the following situation in the past: small pieces of land with mixed cropping, low yields, subsistence farming and would only have 1 meal per day, grass thatched houses, indiscriminate cutting of trees, big ridges for food crops (like groundnuts ,beans and maize); and the following for the current situation: more organized farming including CA and

rotation, available markets, bigger iron roofed houses, about 2-3 meals a day; and in the future they want to increase land size, mechanize, have bigger houses and better infrastructure (markets, transport, good roads).

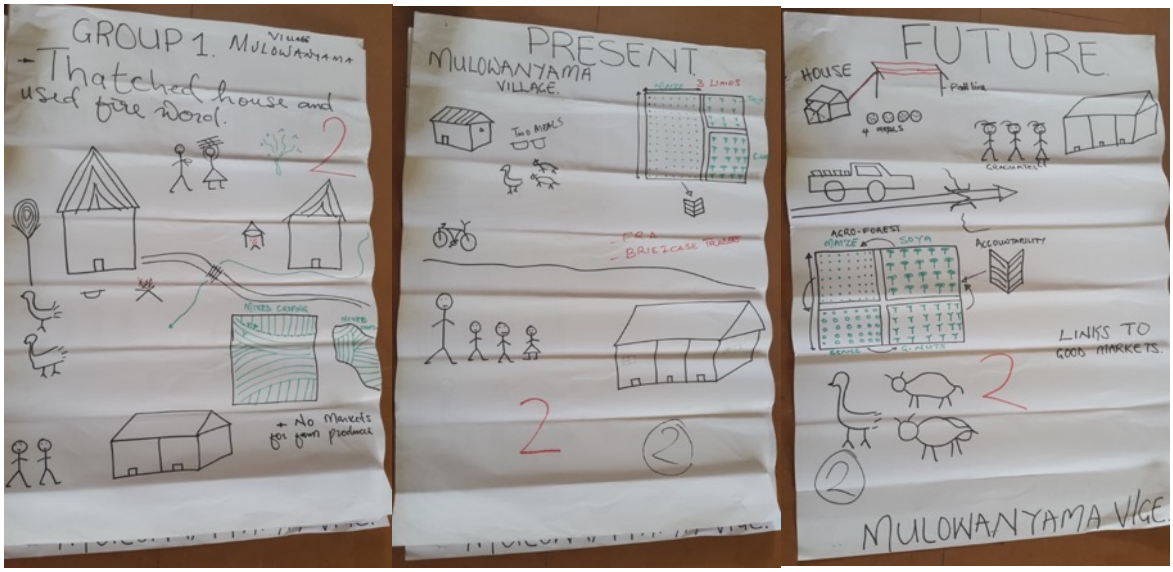


Figure 3: Vision sketches drawn by the male groups from Mulowanyama village in St. Francis camp.

Figure 3 highlights the vision of men from Mulowanyama village. An interesting difference was the discussion of the number of female children going to school. In the past 10 years it was almost zero and currently its about 1 (girl): 3 (boys) and in the next 10 years they want a 1 (girl): 2 (boys). This is due to sensitization and also realization from the parents the importance of sending girls to school.

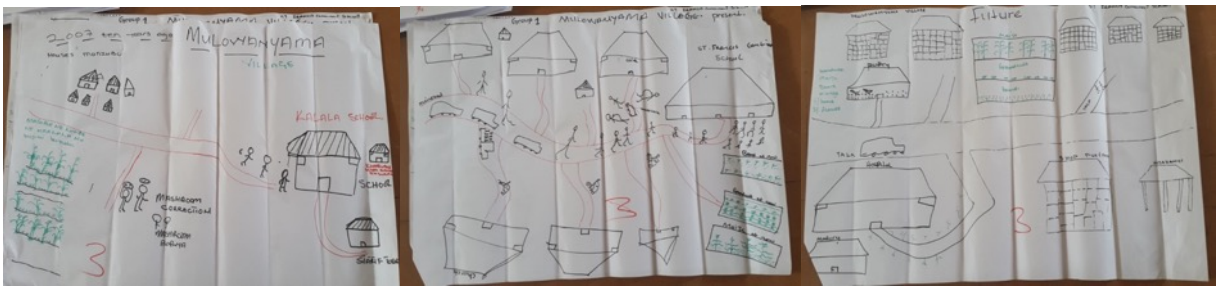


Figure 4: Vision sketches drawn by the female groups from Mulowanyama village in St. Francis camp.

Figure 4 highlights the female vision for Mulowanyama village. They also had an addition of the clinic/hospital. It was clear that health facilities were important for them and they were willing to contribute about 25% in cash. To them most important was having the labor wards and good facilities for sick children especially those in need of immediate attention (broken bones, for example).

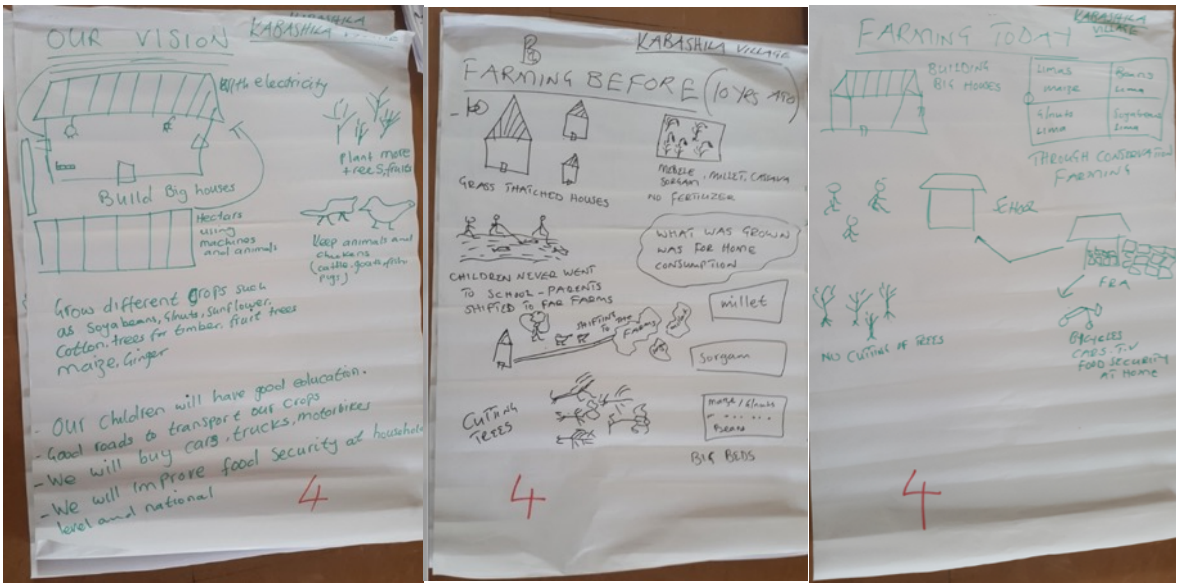


Figure 5: Vision sketches drawn by the female groups from Kabashila village in St. Francis camp.

Figure 5 highlights the female visions for Kabashila village, which emphasized food security, sending children to school and reduced tree cutting. They also recognize high deforestation and the need for good environmental interventions.

Table 2: Summary of the discussions.

Question	Answer
In the past what was the yield?	People could only harvest enough to reach them the other harvest but yields ranged between 400-500 kg / ha
What are the current yields of maize?	Currently we harvest about 1000-1500 kg/ha and would want to increase in the future
Please can you explain the different field proportions (group 2)	Maize is given larger portion because it is staple food
Why in the past only boys would go to school	Because we always say when girls are married then they would not be any help/assistance to their family, they would be only assisting where they are married and they are for the kitchen and girls are just girls☹. Boys would always be at their father's place and would always assist. However, it is not always true, most parents actually find out that girls are most likely to assist their parents even when they get married. Also sensitization has assisted in educating parents on importance of educating female children. However, this is taking time as clearly shown by group 2, in the future they for see proportions of 2 boys: 1 girl in terms of school attendance.

2.2 Mutanda

The Mutanda Male Group highlighted the following: in the past include: the area was bushy with a lot of trees, and farming was mainly done along the Mutanda river with groundnuts, maize and sorghum as the major food crops grown. There were low yields (subsistence farming) and farmers would only have one meal per day, and the main housing type was grass thatched. Other important issues discussed were water and sanitation. In the past, farmers stated that the was used as toilets and water was drawn from shallow wells along the river. The current features are that trees have declined in numbers due to agricultural expansion, population boom and infrastructural development. There is increased crop production and productivity, better iron roofs and bigger houses, and market infrastructure along the road and sanitation have improved (e.g., a central pumped water tap). There are also increased buyers for soya beans like ZNFU and Avantech Limited. For the future they would like to have bigger and electrified houses, increased fruit trees, ownership of small trucks, increased large livestock (goats, cattle and pigs), improved transport facilities, bigger farm sizes and mechanized agriculture.

Figure 6: Vision sketches drawn by the male groups from Mulevu village in Mutanda camp.

The Female Kabozha Group highlighted the following: for the last ten years are intercropping, poor sanitation, grass roofed houses and utilization of river basins for cultivation. The current situation is that more and more farmers are living in iron roofed houses, able to sell the crops especially maize to FRA, increased farmers growing soybeans. The increased demand of the crop (soybeans) has led to more farmers cultivating it and increasing the land under cultivation. The average yield per lima are maize (15 bags of 50 kgs, soybeans 5 bags of 50 kgs, groundnuts 10 bags of 50kgs. The vegetables mainly are grown for the market. The mostly grown are tomatoes, rape, green peppers and egg plants. They usually keep village chickens about 15 chickens per household. For the future, they would like to have more livestock (cattle, pigs and both broilers and layers), increased yield and productivity for maize, cassava, soybeans. They would like to live in bigger and electrified houses and each house should have pumped water.

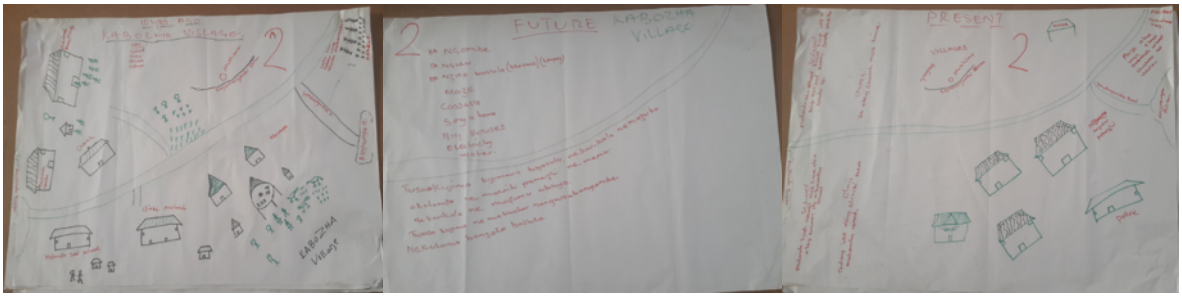


Figure 7: Vision sketches drawn by the female groups from Kabozha village in Mutanda camp.

The Female Musolokoto Group highlighted the following: the population was small and agriculture in the past was for subsistence only. The crops grown were sorghum (*mebele*), finger millet (*luku*), sweet potatoes (*ntambu)*, maize (*mataba*) and cassava (*makamba*). They had a road side market (*kisankanyi*) used for trading their produce especially vegetables. They had both small livestock (village chickens) and large ones (goats). Currently, they grow diversified crops like soya beans, maize, beans, cassava, rice, groundnuts and sunflower. The milling companies in Solwezi, Avantech and the FRA are the major buyers of maize and soya beans. They rear livestock (goats, cows, chicken and pigs). They usually practice conservation agriculture. For the future they envisage increased farm size and increased yields to about 5000 kg/ha. They intend to grow more of vegetables and soybeans because these are proving to be money spinners. They would like to be mechanized, have better houses, own vehicles, value addition by owning hammer mill (kikayo).

Figure 8: Vision sketches drawn by the female groups from Musolokoto village in Mutanda camp.

The Male Musolokoto group highlighted that they were practicing shifting cultivation and slash and burn (chitemene system) and produced maize sorghum, beans, finger millet, and sweet potatoes mainly for home consumption. They practiced a lot of intercropping to produce the above mentioned crops. For the livestock, mainly it was goats and village chickens. Few children went up to grade seven and the ratio for girls who went up to grade seven was too small(1:5). Currently the water and sanitation situation has greatly improved with about three boreholes have been sunk. Further, the yields for the crops has risen, more livestock is being kept and electricity being connected to houses. The total enrolment for school children has shot up and more people are into construction of burnt brick houses and or electrified. They envisage the future with developed agriculture, value addition, better and improved health facilities, mechanized farming, fish farming, access to electricity, more livestock , better

and planed homesteads with social amenities, increased and enhanced food security and better sanitation.

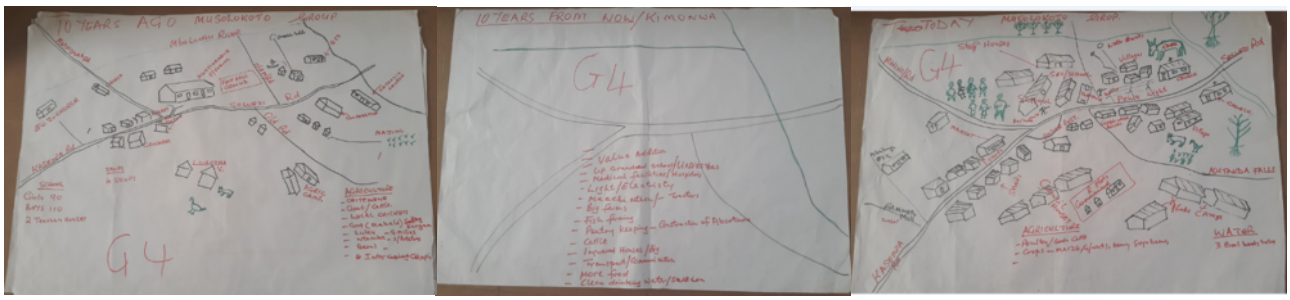


Figure 9: Vision sketches drawn by the male groups from Musolokoto village in Mutanda camp.

III. Exercise Two: Farmers indicators of success by gender

Figure 10: Female group discussions on indicators of success, St Francis (left) and Mutanda (right).

Mr Mutonga explained the exercise to the participants. The participants were asked to identify ten (social-economic and agriculture production related) indicators of success. Participants were asked to list as many indicators as they can in a given time and then from their list select five most important and then rank the selected five most important indicators of success. The tables below list the different indicators. Farmers were asked to present their work (only two groups were asked to present). Participants were asked to explain why they selected the five as the most important.

Selected indicators differed across groups and also the ranking varied across and within groups. Generally, the highly ranked indicators were increased production and farm sizes, increased food security and number of children going to school.

Table 3: Discussion of the indicators of success from St. Francis camp.

Question	Answer
Why not highly rank number of meals per day as an indicator of success	No farmer who produces better yields can go without a meal
How can farmers put up a hospital**	A hospital cannot be built by one individual and we cannot always wait for the government to put up a hospital. Through the community leaders we can work together and contribute in cash and in kind and also through well wishers and donations to put up a hospital

** This group of ladies continued to show their need and importance of a hospital in the area

Table 4: Indicators of success by gender for the St. Francis camp. Text highlighted in red indicate selected indicators and text in bold red shows the highly ranked indicators (1 to 3). Indicators of success (St Francis)

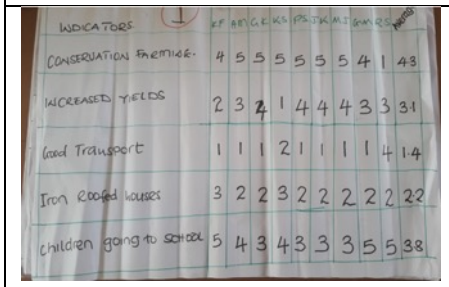
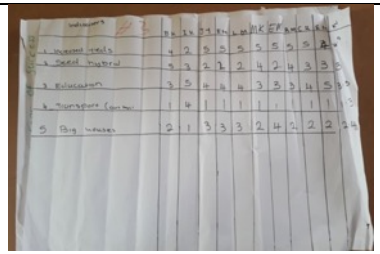
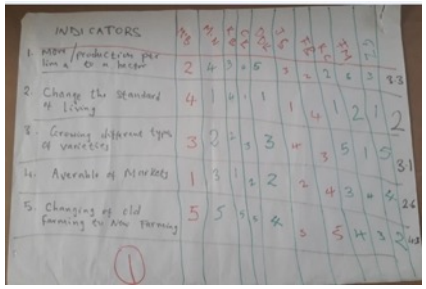
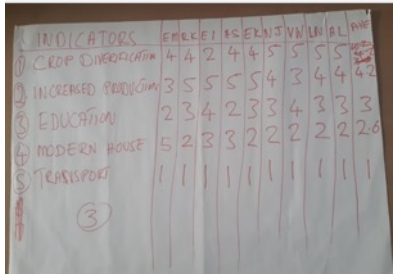
Group 1 (Males)	Group 2 (Males)	Group 3 (Females)	Group 4 (Females)
1. **Traditional farming to conservation farming** 2. **Used to harvest 5 bags (50 kg) of maize per lima (50mX50m), today we are able to harvest 30 bags per lima due to improved method of farming** 3. Previously we used to carry our produce on the heads, today we use bicycles 4. Thatched houses to iron roofed houses 5. Improved number of meals per day 6. **Increased number children going to school** 7. Improved measurements of our fields 8. Improved markets of maize (crops)	1. **Produce enough food for both for home consumption and for sale** 2. **Increased hactrage** 3. Improved life styles (e.g. better housing, migrating from fuel wood to solar energy 4. Improving farming (practices e.g from using a hoe to plough) 5. Manage to educate children 6. **Farming diversification** 7. Enable savings of resources (money)	1. Increase hactrage to 8 limas 2. Use of hybrid seeds (seedco and pannar) 3. Education 4. Big houses 5. Marketing 6. Transport 7. Hospital	1. **Building iron roofed houses (big)** 2. **Taking children to school** 3. Eating well, 3 meals per day 4. Buying of solar panels, TV, generators, bicycles 5. **Cultivating big land (more limas), planting improved seeds, weeding using weed killers** 6. Keeping animals like goats, cattle, chickens 7. Buying school uniforms 8. Buying good clothes for the members of the family including blankets 9. Buying cars and motor bikes 10. Buying hammer mills
			

Table 5: Indicators of success by gender for the Mutanda camp. Text highlighted in red indicate selected indicators and text in bold red shows the highly ranked indicators (1 to 3)

GROUP 1 (Males)	GROUP 2 (Females)	GROUP 3 (Females)	GROUP 4 (Males)
1. Increased production 2. Improve standard of living **3. Crop diversification** 4. Ability to take children to school 5. Able to hire labour 6. Able to produce not only for domestic but also marketing purposes 7. Have transport 8. Being able to save with a bank 9. Have other businesses **10. Able to practice improved agriculture practices**	**1. Able to take children to school** **2. Increased production** **3. Increased yields** 4. Have a modern house 5. Practice crop diversification 6. Have improved or balanced diet 7. Have a hummer mill 8. Power connected house 9. Access to clean drinking water 10. 10. Rear local and broiler chickens	**1. Have a Modern house** **2. Sending children and yourself to school** **3. Increased production** 4. Commercial production 5. Food and nutrition security 6. Livestock production 7. Have transport 8. Have a hammer mill 9. Crop diversification	**1. Size of hectarage** 2. Size of houses 3. Household income **4. Saving money in bank account** 5. No sign of malnutrition 6. Improved methodology of farming 7. Permanent cultivation **8. Using improved farm equipment like oxen and tractors** 9. Fish farming 10. Value addition
			

IV. Exercise 3: Prioritized list of SAI practices by gender

Farmers were presented with a list of SAI practices that was developed in a stakeholder workshop in September 2016. They were asked to add if they feel there are some missing ones, they were also asked to tick those which they are currently practicing and to put an **X** on those they are not currently practicing. Most interventions seem to be practiced in both villages. However use of bamboo sticks for staking tomatoes is mostly practiced in Mutanda camp while use of agroforestry is still not prominent in both villages. Use of fish cages and fish farming is not being practiced in both villages.

Table 6: SAI practices in St. Francis Camp.

SAI practice	Group 1 (Males)	Group 2 (Males)	Group 3 (Females)	Group 4 (Females)
	Practiced = 1 Not practiced = 2	Practiced = 1 Not practiced = 2	Practiced = 1 Not practiced = 2	Practiced = 1 Not practiced = 2
Intercropping	1	2	2	2
Conservation agriculture - compost manure and its uses	1	1	1	1
Fisheries- fish cage farming	2	2	2	2
Use of bamboos in staking of tomatoes	2	1	1	1
Use of permanent planting stations (minimum tillage)	1	1	1	1
Use of agroforestry	2	2	1	1
Crop rotation	1	1	2	2
Intercropping with agroforestry species	2	2	2	2
Moisture management	1	1	1	1

practices e.g. mulching				
Organic farming or utilization of crop residues	2	1	1	1
Conservation agriculture basins	1	1	1	1
Crop rotation	1	1	1	1
Integrated farming	1	1	1	1

Table 7: SAI practices in Mutanda camp.

SAI practice	Group 1 (Males)	Group 2 (Females)	Group 3 (Females)	Group 4 (Males)
	Practiced = 1 Not practiced = 2	Practiced = 1 Not practiced = 2	Practiced = 1 Not practiced = 2	Practiced = 1 Not practiced = 2
Intercropping	1	1	2	1
Conservation agriculture - compost manure and its uses	1	1	1	1
Fisheries- fish cage farming	2	2	2	2
Use of bamboos in staking of tomatoes	1	1	1	1
Use of permanent planting stations (minimum tillage)	1	2	2	1
Use of agroforestry	2	2	2	1
Crop rotation	2	2	1	1
Intercropping with agroforestry species	1	1	2	2

Moisture management practices e.g. mulching	1	1	1	1
Organic farming or utilization of crop residues	1	1	1	1
Conservation agriculture basins	1	2	2	1
Crop rotation	1	1	1	1
Integrated farming	1	2	1	1

V. Exercise 4: Ranking/Prioritization of SAI practices by gender

After participants had selected the interventions that they are currently practicing, they were asked to select five and rank them according to importance. Conservation agriculture with compost, crop rotation, organic farming and integrated farming were some of the practices that were highly ranked by farmers in both camps.

Table 8: Ranking of SAI practices in St Francis.

Group 1 SAI practices (Males)	Ranking								Ave		
Conservation agriculture compost manure and its uses	5	5	4	5	5	5	5	4	4.8		
Crop rotation	3	2	1	1	4	2	3	5	2.6		
Integrated farming	4	4	4	4	3	4	4	3	3.8		
Conservation agriculture basins	2	1	3	3	1	1	2	1	1.8		
Use of permanent planting stations (minimum tillage)	1	3	5	2	2	3	1	2	2.4		
Group 2 SAI practices (Males)	Ranking										Ave
Conservation agriculture compost manure and its uses	2	3	5	5	5	5	4	4	5	5	4.3
Crop rotation	3	1	1	1	4	4	3	2	1	2	2.2

Use of permanent planting stations	1	5	3	3	3	1	2	5	4	1	2.8
Moisture management practices (mulching)	4	2	2	2	2	3	5	3	2	4	2.9
Integrated farming	5	4	4	4	1	2	1	1	3	3	2.8
Group 3 SAI practices (Females)	Ranking										Ave
Conservation agriculture compost manure and its uses	5	5	5	5	5	5	5	5	5	4	4.9
Moisture management practices (mulching)	2	2	2	2	2	2	2	3	2	2	2.1
Organic farming utilization of crop residues	1	1	1	1	1	1	1	1	1	3	1.2
Crop rotation	4	4	4	4	4	4	4	4	4	5	4.1
Use of permanent planting stations	3	3	3	3	3	3	3	2	3	1	2.7
Group 4 SAI practices (Females)	Ranking								Ave		
Conservation agriculture compost manure and its uses	2	5	2	2	2	4	2	2	2.6		
Use of permanent planting stations (minimum tillage)	1	3	1	1	1	1	3	3	1.8		
Crop rotation	3	4	4	5	5	5	5	4	4.4		
Moisture management practices (mulching)	4	2	5	4	3	3	4	5	3.8		
Integrated farming	5	1	3	3	2	2	1	1	2.3		

Table 9: Ranking of SAI practices in Mutanda.

Group 1 SAI practices (Males)	Ranking										Ave		
Conservation agriculture compost manure and its uses	5	5	1	5	5	5	5	5	5	4	4.5		
Integrated farming	2	2	3	2	2	2	2	4	4	2	2.5		
Moisture management	3	3	2	4	3	4	4	2	3	3	3.1		
Crop rotation	4	4	4	3	4	3	1	3	2	5	3.3		
Use of bamboos in sticking in tomatoes	1	1	5	1	1	1	3	1	1	1	1.6		
Group 2 SAI practices (Females)	Ranking												Ave
Use of bamboos in stalking of tomatoes	1	1	3	2	1	5	3	4	1	5	3	1	2.4
Conservation agriculture compost manure and its uses	2	4	5	4	4	4	4	5	4	2	4	5	3.9
Moisture management practices e.g mulching	3	3	4	3	2	3	2	2	2	4	2	1	2.8
Organic farming or utilization of crop residues	4	2	1	1	3	1	1	1	3	1	1	2	1.7
Crop rotation	5	5	2	5	5	2	5	3	5	3	5	3	4
Group 3 SAI practices (Females)	Ranking										Ave		
Conservation agriculture compost manure and its uses	3	3	3	4	4	1	3	2	4		3		
Use of bamboos in staking of tomatoes	1	1	1	3	3	3	4	4	2		2.4		
Crop rotation	5	5	5	5	5	5	5	5	5		5		
Moisture management practices	4	4	4	2	2	2	1	3	3		2.8		

Integrated farming	2	2	2	1	1	4	2	1	1		1.8		
Group 4 SAI practices (Males)	Ranking											Ave	
Conservation agriculture compost manure and its uses	2	1	2	2	1	1	2	1	5	1	2	2	
Crop rotation	1	2	1	1	2	3	4	3	4	3	1	3	
Use of agro forestry	3	3	4	3	4	4	1	2	3	2	3	3	
Integrated farming	4	4	5	4	3	5	5	4	1	5	5	4	
organic farming	5	5	3	5	5	2	3	5	2	4	4	4	

VI. Exercise 5: Farmers sign up to trial the proposed SAI practices

The farmers unanimously volunteered to trial the following SAI practices (those ranked 1 to 3) on their farm:

- Conservation agriculture compost manure and its uses.
- Crop rotation
- Integrated farming
- Moisture management

The lists of farmers from both camps are as follows: St Francis Lists of Volunteered Farmers (Annex 2) and Mutanda List of Volunteered Farmers (Annex 3)

VII. Conclusion

It was important to have gendered exercises as observed from the visions and ranking of success indicators. We also noticed that access to good infrastructure in this case roads influence farmers' livelihoods and socio-economic factors. Female child education appears higher in Mutanda compared to St Francis. Mutanda farmers have better access to markets and venture into horticultural produce such as tomatoes, rape, green peppers and egg plants. It is important to note that due to delays in starting the meetings in both sites the team did not manage to do exercise on root cause analyses. However, the root cause analysis was conducted on some activities in the September 2016 workshop and this information will be used to supplement the root cause analysis. Collection of mushroom can be another activity that can be done to increase income and household nutrition, however children school attendance can be affected and also that there would be need for equipment to keep the mushrooms fresh or for drying and transport. Generally, the meeting went on well and farmers were looking forward to start on the field experiments to learn. They also were keen to share information with other farmers.

VIII. Annex 1: Participatory Workshop Program- 1-2 March 2017

Time	Activity	Responsible
8:30-9:00	Registration	Mwansa
9.00 – 9.30	Introductions, welcome remarks Workshop objectives	Mwansa/CAC chairperson Mtonga
9.30 – 10.30	Visioning of agriculture for the farming community	Zimba, Mwansa, Mtonga, Masikati
10.30 – 11:00	Tea break	All
11:00 – 12:00	Identify gendered farmers' indicators of success' for agricultural systems	Zimba, Mwansa, Mtonga, Masikati
12:00 – 13:00	Develop a prioritized list of SAI practices by gender	Zimba, Mwansa, Mtonga, Masikati
13.00 – 14:00	Lunch	All
14:00-15:00	Identify 'root causes' of barriers to adoption of SAI	Zimba, Mwansa, Mtonga, Masikati
15.00 – 15.15	Afternoon tea	All
15.15 – 15.30	Identify farmers willing to trial the SAI options on their farms	Zimba, Mwansa, Mtonga, Masikati
15.30 – 15.45	Next step and closing	Zimba, Mwansa

IX. Annex 2 Attendance Register – St. Francis Camp

No	Name	Gender	Organisation	Village
1	Mbandama Elizabeth	F	Twibikeko coop	Mulowanyama
2	Bridget konibantu	F	Kabiloto coop	Mulowanyama
3	Ireen konibantu	F	Kabiloto women club	Mulowanyama
4	Martha kalala	F	Twibikeko coop	Mulowanyama
5	Yembana joan	F	Kabiloto womens club	Mulowanyama
6	Lisa mayonde	F	Twibikeko coop	Mulowanyama
7	Mbandama rosara	F	Kabiloto women club	Mulowanyama
8	Mukuka Elizabeth	F	Kimaole women club	Mulowanyama
9	Esther chikola	F	Kimaole womens club	Mulowanyama
10	Maggie Chaputuka	F	Kimaole womens club	Mulowanyama
11	Veny Kilondo	F	Kabiloto womens club	Mulowanyama
12	Elizabeth munjita	F	Futeeko coop	Kutakuta
13	Grace malipande	F	Futeeko coop	Kutakuta
14	Sebastian kalilemba	M	Ndumbwa coop	Sisala
15	Dickson ngusa	M	Mulembe coop	Kisalala
16	Henry meleki	M	Mulembe coop	Kisalala
17	Sr Lucy Banda	F	Nazareth home craft college	Convent
18	Nyanga greenwell	F	Ministry of education	
19	Shamwanza royd	M	Ministry of fisheries and livestock	
20	Grace malipande	F	Nkwanga	
21	Elizabeth muinjito	F	Nkwanga	

22	Kenna maluba	F	Ministry of community	
23	Catherine kyazebela	F	Kimaole womens club	
24	Maggie chaputuka	F	Kimaole womens club	
25	Veny Kilondo	F	Pavidia	
26	Esther chikola	F	Kimaole womens club	
27	Ediya musunka	F	Farmers union	
28	Jonas kakinge	M	Pavidia	
29	Pethias samusoni	M	Kanyumbo coop	
30	Kakingwe Samuel	M	Futeko coop	
31	Muchimba m	M	Futeko coop	
32	Kipatela fred	M	Kabiki	
33	Gladson chupa	M	Farmers union	
34	Mbambiko jaddy	M	ZNFU information centre	
35	Dominc ntambo	M	Kimaole women club	
36	Yamwisha chris	M	ZNFU information centre	
37	Ignatius kimbelembe	M	ZNFU information centre	
38	Hanabowa chris	M	Hospital compound	
39	Zulu masauso	M	Kabiloto womens club	
40	Ntambo jerry	M	CAC-Chairperson	
41	Luka kambelembele	M	Kabiloto womens club	
42	Esiya mwepu	F	Mapopo women club	

X. Annex 3: Mutanda Agriculture Camp Register

No	Name	Gender	Organization/Village	Contact number
1	Lisa Ngambo	F	Mutanda dairy coop/ Musolokoto	
2	E . Izona	F	Bukomo club/ musolokoto	
3	Ginny Ntambo	F	Mutanda dairy coop/musolokoto	
4	Rodia Kyembe	F	Tukwatankane club/ kikuma	
5	Shikishi Jackson	M	ZNFU / Jatwa	0964322081
6	Mofya Malate	M	Kambazhi/mulimbi	0962175644
7	Greverson Mashikinyi	M	Kambazhi / Mulimbi	0963951162
8	Mushipi Boyd	M	Tusakwingula/Jatwa	0978296162
9	Malopa B	M	Chitobetobe / Jatwa	0969644786
10	Sangabukila L	M	Kambazhi coop/ Mulimbi	0962359902
11.	Mupula Nelson	M	Kimishima coop/mulimbi	
12	Kapatamoyo C	M	Kimushima coop/ mulimbi	
13	Kajilambimga E	F	Kimushima coop/ mulimbi	
14	Chiwaya K	M	Mutonia fish coop/ masuwa	
15	Braiton K	M	Buseko womens club/ shalubala	
16	Kapila M	M	Mutonia fish coop/ kyembe	
17	Kafwelu M	M	Chimwewu coop/kyembe	
18	Mungwala S	M	Chimwewu coop/ kyembe	
19	Kawumbo A	F	Buseko womens club/ shalubala	
20	Kangana J	F	Butala women club/ shalubala	

21	Kikatula A	F	Butala womens club/ shalubala	
22	Abinala A	F	Butala womens club/ mulimbi	
23	Kapeshi E	F	Kamisombo womens club/ shalubala	
24	Musompo R	F	Kamisombo womens club/ shalubala	
25	Lelwa A	F	Kamisombo womens club/ shalubala	
26	Moses Sankalimba	M	Kijimbamataba coop/ kabamba	
27	James Makina	M	Kijimbamataba coop/ makina	
28	Ema Funkama	M	Kijimbamataba coop/ funkama	
29	Senika Pasana	M	Kijimbamataba coop/ ndubeni	
30	Queen kasanza	F	Kamyanga womnes club / kabamba	
31	Esther Mwelumuka	F	Kamyanga womens club/ mulumba	
32	Mary kisanza	F	Kamyanga womens club/ kabamba	
33	Violet Wachata	F	Kamyanga womens club/ ndanyila	
34	Abiya Yalukanda	F	Bukomo women club/ yalukanda	
35	Bornard Fumpa	M	Bukomo womens club/ kunama	
36	Kabozha Cloudus	M	Mukamena coop/ kabozha	
37	Charity kandya	F	Kabuchimba coop/ kayumba	
38	Nelly nyoni	F	Kabuchimba coop/ kabozha	
39	Ford bwakya	M	Milobolola credit and savings/ bwakya	

40	Bernson kajoba	M	Mukamena credit and savings /kajoba	
41	Geoffrey zhangi	M	Mukamena credit and savings /kaumbo	
42	Mukwilima Teddy	M	Kabenke credit and savings/ musolokoto	
43	Monica Mponda	F	Kabuchimba coop/ Kabozha	