Proceeding of the Second Farmers Forum for the Eastern Zone on

"Technology Adoption and Farmers Perception"

held at the Vocational Education Training Authority (VETA), Mikumi

11 - 13 June 2001

The Forum was organized by the Implementation Team of the Project

Food Security and Household Income for Smallholder Farmers in Tanzania: Applied Research with Emphasis on Women under the Tanzania Agricultural Research Project Phase Two

(TARP II - SUA Project)

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PREFACE

Sokoine University of Agriculture in collaboration with Ministry of Agriculture and Food Security, and Agricultural University of Norway, is implementing a collaborative research project on food security and household income for smallholder farmers in Tanzania. This project officially commenced in September 2001, and is funded by the Norwegian Government through The Norwegian Agency for Development Cooperation (NORAD) and the Government of Tanzania.

There are five major expected outputs as follows:

1. Client-oriented and demand driven on-farm/on station research in production, processing, and marketing.
2. Farmer-Research-Extension linkage.
3. Training of MAFS staff to improve research performance.
4. Development of a proposal for sustainable research funding mechanism.
5. Assessment of Impact of agricultural research.

Therefore, among the important activities aimed at strengthening the relationship between farmers, researchers and agricultural extension agents is to conduct workshops with the following targets:

1. To facilitate interaction between researchers, farmers and agricultural extension agents in order to address important issues that need joint actions with the aim of improving food security and incomes.
2. To critically identify and analyze problems facing smallholder farmers.
3. To prioritize possible solutions to identified problems.
4. To share experiences on important areas of agriculture and livestock.

This issue presents proceedings of the second "Farmers Forum on Technology Adoption and Farmers Perceptions" held at the Vocational Education Training Authority (VETA) - Mikumi, 11 to 13 June 2001. Although the forum was conducted in Kiswahili the proceedings are presented in both Kiswahili and English. This English version does not contain the opening and closing speeches.

L.D.B Kinabo
Project Coordinator

A Group photograph of the Second Farmers Forum for the Eastern Zone held at the Vocational Education Training Authority, Mikumi, 11 – 13 June 2001

ACRONYMS

AI	Artificial insemination
CBPP	Contagious Bovine Pleuro-pneumonia
ECF	East Coast fever
GTZ	German Agency for Technical Co-operation
LITI	Livestock Training Institute
NORAD	Norwegian Agency for Development Cooperation
NGO	Non-Governmental Organisation
PRA	Participatory Rural Appraisal
SECAP	Soil Erosion Control and Agroforestry Program.
SUA	Sokoine University of Agriculture
TARP II	Tanzania Agricultural Research Project Phase Two

Some of the participants in a group work session

1.0 INTRODUCTION

1.1 Workshop Structure

- **Opening**

The Project Coordinator Prof. L.D.B. Kinabo gave the opening speech.

- **Self introduction**

Participants introduced themselves in pairs using an agreed guideline (Appendix 1).

- **Expectations**

Participants highlighted their exceptions from the workshop (Appendix 3).

- **Topics involved**

Selection of topics resulted from participatory rural appraisal (PRA), to identify adopted and non-adopted technologies, local institutions and problems affecting agriculture and livestock development.

- **Evaluation**

The workshop was evaluated by using a short questionnaire (Appendices 7 and 8).

- **Closing**

The principal of the Vocational Education Training Authority (VETA), Mikumi closed the Forum.

1.2 Participants

The Farmers Forum, which was composed of four types of stakeholders engaged in rural agriculture and livestock production, was conducted at VETA Mikumi for three days (11-13/6/2001). These participants were farmers and livestock keepers, three consultants, three researchers and three representatives from NGOs. The List of participants is appended (Appendix 2). Workshop facilitator was Mrs. Ngoyako Mtenga (A tutor at the Livestock Training Institute (LITI) - Morogoro in cooperation with forum organizers. (Dr. J. Lyimo-Macha, Prof. E.K. Batamuzi and Prof. A.J.P. Tarimo all lecturers of SUA) on behalf of the project Food Security and Household Income for Smallholder Farmers under the Tanzania Agricultural Research Project Phase Two (TARP II).

1.3 Objectives and Aim

1.3.1 Objectives

- To involve various stakeholders in order to identify responsibilities of each in the community for the purpose of improving food security and household income (especially for women).

- To enhance their interaction for the purpose of improving food security and increased household income for smallholder farmers.

1.3.2 Aim

To evaluate the attitude of the community on the use of technologies using participatory rural appraisal method to identify technologies that have been adopted and those not adopted and the their reasons.

- To identify and evaluate technologies that have been adopted by farmers and the factors, which determine the adoption and non-adoption of technologies.
- To identify local institutions that can assist communities in improving productivity.
- To identify problems facing the communities in agriculture and livestock, solutions, means, suggestions and responsibilities of each stakeholder in solving the problems in order to improve production.

1.4 Topics taught

1.4.1 Participatory Rural Appraisal (PRA)

- meaning
- uses
- methods and tools

1.4.2 Attitude of farmers and livestock keepers on the use of technologies in the Eastern zone

- to recognize the existing technologies in the community
- to prioritize the technologies and identify the important ones for farmers and livestock keepers.
- to identify technologies that have not been adopted and reasons for non-adoption.

1.4.3 Local institutions in the community

- Responsibilities of each
- Relationships with the communities
- Relationship among institutions

1.4.4 Problems hindering agriculture and livestock development

- To identify and analyze (causative factors, solutions, suggestions and responsible actors).

1.4.5 Suggestions

1.4.6 Conclusion

1.5 Workshop Timetable

The workshop was guided by a timetable (Appendix 4a, 4b and 4c). Timetables were prepared daily to accommodate events not foreseen.

2.0 WORKSHOP APPROACH

In order to make the topic clearly understood by the participants in an active manner, different participatory approaches were used.

2.1 PRA approaches were used in group discussions to identify and analyze institutions and communities.

2.2 Puzzles (Ice breakers and energizers) were used for climate setting.

2.3 Communication in group work (including the discussions in each group until consensus is reached).

2.4 Exercises (in and outside classes) were used.

2.5 There was full involvement of participants in conducting the workshop through their representatives (Chairman, Vice Chairman, timekeeper and daily secretaries). This is detailed in Appendix 5.

2.6 Participants gave their expectations from the workshop. These expectations were reviewed at the end of the workshop for verification.

3.0 RESULTS

3.1 Identification of technologies that have been adopted and those not adopted in the community

The main exercise was preceded by definition of technology (i.e. technical know how, new strategy or skill). The word is from Greek origin: Techno: knowledge of doing something; logia: education/knowledge. Therefore, technology means knowledge of how to do something.
The exercise was carried out by eight different groups.

Exercise: Identify technologies used in agriculture and livestock.

Group submissions

Group One

Agricultural technologies

1. Farm fallowing to replenish soil fertility.
2. Terracing to conserve soil fertility.
3. Traditional microcatchment type of farming to conserve fertility and prevent soil erosion. This is commonly used in Iringa region.
4. Line planting (3 ft x 1ft for maize) to improve yield.
5. Early farm preparation and sowing to ensure high crop production.
6. Appropriate weeding period for food crop performance.
7. Seed selection from superior maize.
8. Peeling harvested maize in the farms to avoid unnecessary load and pest transfer to storage facilities.
9. Maize storage using pesticides (ratio: 1:8 and 1:12 for powdered and liquid pesticides per respective bags).
10. Maize storage using rice husks by spreading out in storehouse.
11. Technology of preventing rodents in farms using maize husks mixed with poison and spreading along the farm boundaries.
12. Building of barn using poles and cow dung.
13. Skills of making soda ash using maize cobs, banana peels and spinach ash.

Livestock technologies

1. Preventive and curative measures against cattle diseases (e.g. FMD) "Olokuluku"
2. To recognize excessive breathing and fur growth disease ("Oleipanyipanyi)
3. How to vaccinate cattle against Contagious Bovine Pleural Pneumonia (CBPP).

4. Shifting from one paddock to another in order to prevent rotting of cattle hoofs especially during long rains.
5. Skills for washing cattle using industrial chemicals like Stelladone and Superdip.
6. To prevent goat fleas by using Super actelic.

Other technologies

1. Skills for filtering milk using clean pieces of cloth before taking to the market.
2. Skills for preparing baby meal using milk and a mixture of cereals, groundnuts and beans. This food is locally known as "Oloitohola"

Group Two

Agricultural technologies

(A) To increase income from coconut crop

1. Planting space
   - 13 x 10 m each for mixed crop
   - 9.5 x 9.5 m for mono-cropping (coconut alone)

2. Pest control
   - Mixing coconut crop with citrus species like oranges
   - Introducing insects that feed on coconut pests-biological control ('dudu faru).

(B) Cashew nut crop

1. Planting space: 14 x 14 m
2. Clean weeding (three times a year)
3. Disease control
4. Proper use of sulfur chemicals

(C) Rice crop

1. Use improved seeds (L85)
2. Traditional irrigation
3. Planting space: 15 x 30 cm
4. Proper use of fertilizers (both organic and inorganic)
5. Clear weeding (chemical or physical)

6. Use of rice plots ('majaruba')

(D) Maize crop

1. Use improved seeds (Kilima, Taxipene, TMV I and Staha)
2. Planting space: 75 x 60 cm
3. Disease control (strip disease - use TMV I)
4. Pest control (Sumithion, 50EC should be used)
5. Physical and chemical weeding (2-4)
6. Proper storage of cereals using chemicals, barns and drum

Livestock technology

1. Improved livestock production using bottle insemination or superior bulls
2. Preventive measures against East-Coast fever (ECF) and CBPP.
3. Use of manure

4. Castrate and treat

Environmental conservation technologies

1. Alternative sources (sun rays and husk stoves)
2. Preparation of traditional fertilizers or manure
3. Brick making using crop residuals
4. Use of traditional medicines for livestock and human beings

Group three

Agricultural technologies

1. Farming system using manure and compost to increase soil nutrients
2. Integrated agriculture to ensure crop yield
3. Crop rotation to prevent disease attack and insect pests
4. Construction of terraces to prevent soil erosion

Livestock technologies

Ghee preparation using machine that separates cream from milk and by boiling.

3.1.1 Summary of adopted technologies

Due to long list of identified technologies by groups, nine important technologies (adopted) were selected (five for agriculture and four for livestock). These are:

(A) Important agricultural technologies

1. Recommended line and planting space of crops (e.g. 3' x 1' for maize)
2. Storage of cereals in storehouse using rice husks
3. Prevention of rodents in farms by spreading maize husks mixed with rodent poison along the farm boundaries.
4. Construction of water barriers and use of manure/green manure or compost in order to improve soil fertility and prevent soil erosion.
5. Use of improved seeds certified by experts (e.g. TOSCA, Kilima and Staha).

(B) Important livestock technologies

1. Prevention of livestock diseases through:
   (a) dip wash of livestock using industrial chemicals such as Stelladon and Superdip.
   (b) Change of paddock especially during long rains to prevent diseases associated with hoof rotting.

2. Livestock improvement through artificial insemination or superior bulls in order to get hybrids with high milk yield and good quality meat.
3. Ghee preparation using machine that separates cream from milk and by boiling.
4. To ensure milk hygiene through filtering using clean peace of clothe before taking to the market.

3.1.2 Analysis of technologies

Because of time limit, each group identified only six technologies; four under agriculture and two under livestock.

Guidelines for evaluation of existing technologies

- Which technologies and for what purpose?
- Origin?
- For how long has the technology existed in the community?
- Has it been well and quickly adopted or not? Why?
- What is its impact to the environment?

3.1.3 Well adopted technologies

Technologies for agricultural improvement

1. Planting crops in recommended line and space.

(i) The technology aims at increasing crop yield.

(ii) It resulted from researchers.
(iii) It existed in the community since 1970s.
(iv) It has been quickly and well adopted because it increases crop yields, simplify weeding and the farm looks attractive.
(v) Many people have adopted the technology because it increases crop yield, it is low cost and also required skills are minimal. However, few people have not adopted and they still rely on their traditional methods.
(vi) No harm to the environment.

2. To conserve maize in storage facilities using rice husks
(i) It is a technology, which is used to store or conserve maize against rodents.
(ii) It is a traditional technology from the tribe called "Wakagulu"
(iii) Existed since ancestors.
(iv) Quickly adopted because it reduces maize destruction by rodents, it is cheap and required skills are minimal.
(v) Adopted by majority as it is still practiced to date because of its suitability and availability of rice husks.
(vi) It minimizes environmental degradation especially setting fire close to human settlements

3. Use of superior maize seeds
(i) Increase of household income by improving maize production from 4-7 bags per hectare to a range of 10-15 bags per hectare in Mvumi-Kilosa.
(ii) Originated from research institutions
(iii) Adopted in the community for the past 10 to 20 years.
(iv) Excellent adoption by the community because of its performance (increased income), and does not require extra skills. Majority are now using improved seeds.

4. Construction of water barriers and use of manure, green manure and compost in order to conserve water, fertility and prevent soil erosion for improved production.

(i) Sustainable technology for soil fertility and conservation. Aimed at environmental conservation and high crop yield.
(ii) Origin: extension officers and researches, GTZ, SECAP, HIAP).
(iii) For how long? About ten years.
(iv) Its adoption: Well adopted in west Handeni because the area is dry and farmers observed the impact, whereas in east Handeni where soil is fertile the technology was not appreciated because it increased the workload to farmers.
(v) In Bagamoyo district the technology was not adopted because there were no soil erosion problems.

Technologies for livestock improvement

1. Livestock disease prevention through dip washing using industrial chemicals - Stelladone and Superdip.

(i) This technology is used to prevent tick-borne diseases in cattle.
(ii) Originated from researchers and extension officers.
(iii) Existed in the community since 1970s.
(iv) It was quickly adopted from the beginning because tick associated diseases were severe especially East-Cost fever.
(v) Adopted by almost all people at once.
(vi) It is an environmental hazard because it kills birds that feed on cattle ticks and animal carcasses thus reducing their population.

NB: The technology may kill the cow if not properly vaccinated.

2. Milk filtering using clean piece of cloth before marketing or home consumption

(i) It is a technology that ensures milk hygiene before sale or home consumption.
(ii) Originated from researchers and extension officers.
(iii) Existed in the community since 1970s.
(iv) It was quickly and well adopted because of market conditions and health regulations, it is low cost and there are no special skills required.
(v) It is environmentally friendly.

3.1.4 Technologies that were not adopted

Various technologies that were not adopted were also identified. These include:

1. Improving indigenous cows by breeding up with exotic bulls in order to obtain good hybrid with the following characteristics

- High milk production (from 1 to 15 liters)
- More meat production (from 50 kg to 155 kg)
- More manure production

i) Sources: Research institute dealing with improved bulls (Kongwa, west Kilimanjaro, Mabuki and Malya)
ii) The technology was there for 30-35 yrs
iii) Its adoption was very low and slow

Reasons for the failure

i) It is very expensive
ii) No follow-ups were made
iii) Illiteracy

2. Ghee preparation using machine that separates cream from milk and by boiling.

(i). Increasing value for milk products.
(ii) Source: National Diary farm cooperation and some trained local farmers.
(iii) It was there for more than 10 yrs.
(iv) How was it adopted? Was not well adopted.

Reasons for the failure
- Very expensive
- No groups or farmers unions
- Very little milk is produced

3.1.5 Characteristics of the adopted technologies

Technologies with the following characteristics were easily adopted
- Technologies that were not expensive (cheap)
- Technologies which were simple and easily understandable
- Technologies whose advantages were seen easily.

3.1.6 Characteristics of technologies that were not adopted
- Technologies that were expensive
- Technologies that could nor be understood easily
- Technologies that needed close follow-up

3.2 Institutions

Definition of an institution, importance of the excises (tasks) and how to accomplish this exercise.

Puzzle:
Join 9 dots in 4 lines without the removal of the pen.

Meaning:
We should not be limited by boundaries such as education, religion, norms, gender and taboos, in seeking solutions for problems associated with improving crop and livestock production. Different organizations and co-operations should be involved in improving production and rising household income.

Group work
- Identify different institutions in your area
- Identify their importance, relation to the society and relationship between institutions

The excise was done in small groups on district bases. These districts were Handeni, Morogoro, Kilosa and Bagamoyo

- It was done outdoor.
- Members identified institutions present in their area. "Chapati" drawings as one of the tools were used where the drawings were made on the ground and later transferred onto paper and presented to other groups

Exercise guidelines

(a) Size of the drawing "chapati" depicts its importance to the society.
(b) Distance (chase or for) shows relationship of the institution to the society and it shows whether the institution is in or out of the society.
(c) Intercepting drawings show that there is a relationship between the institutions (see Appendix 6).

The exercise realized the following:

- There are many institutions that the society failed to interact with in order to improve production
- The relationship between institutions and society in Bagamoyo district was mentioned to be very low
- In Wami-Morogoro, there is no any institution (NGOs) that assists livestock-keepers. It was mentioned that there is no any institution that deals with the form and livestock implements in several areas.)

3.3 Community Problems

3.3.1 Problem identification

Along with the exercise on institutions in the society the participants identified community problems associated with crop and livestock production (at the ward level)

The following is a list of the community problems identified by the participants from each district

1. Bagamoyo District

(a) There is no agricultural officer (left for studies)
(b) Lack of farm implements
(c) There are no tractors in this area
(d) Inadequate services for crop and livestock farmers in the district

2. Handeni District

(a) Water problems affecting human, livestock and crop production (most of the time is spent in fetching water)
(b) Poor farming and livestock keeping systems

3. Morogoro District (Wami)

(a) No stock route
(b) Poor water services
(c) Poor crop and livestock extension services
(d) Nomadic pastoralism
(e) Crisis between farmers and livestock keepers

4. Kilosa District

(a) Lack of improved seeds.
(i) For rice, maize and "ufuta".
(ii) For livestock it bulls cocks etc.
(iii) Lack of farm implements i.e. tractors and water pumps.
(b) Lack of clean and safe water (very few wells are present).
(c) Lack of credit to target groups (i.e. farmers and livestock keepers).
(d) Poor infrastructure mainly road during dry and wet seasons.
(e) Unreliable market for crop and livestock products.

3.3.2. Problem analysis

Due to limitation of time, each group analyzed only one problem that seemed to affect communities more than others either in crop production or livestock production. The analysis was done following the procedures provided.

Group communications

(a) Handeni District

PROBLEM	CAUSES	CURRENTLY USED STRATEGIES	LONG TERM SOLUTION	RESIPONSIBLE GROUP
Water scarcity	(I) Frequent drought	• Construction of dams • Digging wells • Rain water harvesting • Use of piped water	• Construction of dams and wells • Establishment of water user groups • Training of the conservation of water sources • Establishment of water trust fund • Training on rain water harvesting techniques • Implementing proper land use plans	• Respective communities • NGO's (Non - Governmental Organizations) • Religious organizations • Communities

(b) Morogoro District (Wami Dakawa)

PROBLEM	CAUSES	CURRENTLY USED STRATEGIES	LONG TERM SOLUTION	RESIPONSIBLE GROUP
Stock route to watering points blocked by Awadh Salehe (the Arab, "Mwarabu")	• Area surrounding the stock route bought by a private individual • An individual of Indian origin has sold the state land • Government at the village/ division/ward /level do not involve the community in the privatization of the communal land • Government at the village/ division/ward /level are not concerned in solving problems facing livestock keepers • Lack of allocated land for livestock keeping and for provision of allied services.	• Problem has been communicated to the village and divisional leadership and to the area commissioner • Seasonal dams which dry during July are being used to water the livestock • Shifting the animals to new grazing areas during the dry months. This practice has now been prohibited by the regional government	• Demarcating the stock routes and putting them under the control of the government • Selling and privatizing village land to be done under proper government control • Involving villagers on all matters concerning village land • Village governments to organize and consider the different productive requirement on the village resources • Development of the concrete plans to allocate suitable land for livestock keepers where they can get the necessary services	• Government at the village/ward and division level • Government at all levels • Government in collaboration with livestock keepers • Government at the different levels in collaboration with all productive groups • Government at all levels.

(c) Kilosa District

PROBLEM	CAUSES	CURRENTLY USED STRATEGIES	LONG TERM SOLUTION	RESIPONSIBLE GROUP
Lack of improved seeds	• Inadequate supply of the improved seeds • High cost of the improved seeds • Low knowledge on the improved seeds	• Local production of the seeds at the farmers level • Demonstrations and training of farmers • Provision of loans for conducting trials in the villages • Conducting farmers field visits to the research centers • Conducting farmers demonstration in the village	Farmers • to show readiness to implement the recommendations • to adhere to loans conditionalities • farmers to be ready to participate in trial production of seeds • farmers to follow extension advice Extension officers • Extension officers to advice farmers • Extension officers to make regular follow up visits to the farmers Researchers • to produce suitable seed varieties • to conduct seed trials in more areas • to plan and conduct training visits to farmers Government • to facilitate production of improved seeds and farmers training • To facilitate farmers/ extension officers and researchers in producing improved seeds • To facilitate financial institutions to give loans at the appropriate times	

(d) Bagamoyo District

PROBLEM	CAUSES	CURRENTLY USED STRATEGIES	LONG TERM SOLUTION	RESIPONSIBLE GROUP
Unaffordable costs of inputs	• Low incomes and education • Inputs are not within the reach of farmers	• Use of alternative inputs that are available, such as seed selection from past season crops	• Strengthen primary associations and cooperatives to serve the community. • Enhance community knowledge base • Establish credit and saving unions	• Farmers • District councils • Primary societies • Private institutions

4.0 RECOMMENDATIONS

4.1 The participants emphasized on the use of appropriate agricultural and livestock technologies in order to increase household income and food security

4.2 To improve production by using available resources, including the appropriate technologies, every one in a household should participate in production in order to improve income. Thus the government and institutions concerned should focus on improving farmer's welfare.

4.3 Involvement of stakeholders in working and serving the people around the area, and enhance participation and close relationship as a team.

4.4 In future, stakeholders should forge closer relationships in planning and implementation of development programmes. Research activities should be expanded and disseminated to farmers to improve existing technologies (for agriculture and livestock) and agricultural extension officers should do close supervision.

4.5 Stakeholder's responsibilities: They should listen, respect and understand each other in planning and implementation of developmental programmes.

4.6 Researches should be demand-driven. They should contribute socially and economically to facilitate planned programmes and improve livestock and agricultural production.

5.0 CONCLUSION

It was observed that development means improved standard of living. Therefore development should aim to have enough food and income at all times to satisfy human basic needs like medicine and good housing. The use of modern technology to small-scale farmers will facilitate this.

6.0 EVALUATION

Participants were pleased to gain knowledge on how to conduct PRA including ways of organizing and conducting seminars through participation (70%). Also large number of participants was motivated by contributions of facilitators and participants: knowledge, skills and experiences and their ability to make every one participate by use of very common and understandable language (75%) (Appendix 8).

Shortcomings of the Workshop

- Short time allocated for the workshop/seminar (35%)
- Imbalance between gender, farmers and livestock keepers (15%). Otherwise the workshop was well conducted (65%) as observed by large number of participants.

APPENDICES

APPENDIX 1: INTRODUCTION FORM

Name .....
Location .....
Activities .....
Expectations.....
(i) .....
(ii) .....

APPENDIX 2: LIST OF PARTICIPANTS

	Name	**Addresses**
1.	Frank Manyara	P.O.Box 610 Wami, Dakawa Morogoro
2.	Athuman Okeshu	P.O.Box 162 Wami, Dakawa Morogoro
3.	Ibrahim Maenga	P.O.Box 612 Wami, Dakawa Morogoro
4.	Fadhili Rajabu	P.O.Box 140 Mikumi,Morogoro
5.	Asha Ibrahimu	P.O.Box .133, Kidatu, Morogoro
6.	Tatu F. Kumbu	P.O.Box. 54 Bagamoyo
7.	Mariamu Katema	P.O.Box. 54 Bagamoyo
8.	Omari Mcheketu	P.O.Box.133, Kidatu
9.	Hamida Mavanga	P.O.Box. 173, Kilosa
10.	Hamza Haji	P.O.Box. 173, Kilosa
11.	Rajabu Kimangala	P.O.Box.94, Yombo Bagamoyo
12.	Shabani Swalehe	P.O.Box.130, Handeni, Tanga
13.	Yusuphu Kome	P.O.Box. 130, Handeni, Tanga
14.	Zuberi Abedi	P.O.Box. 18 Handeni, Tanga
15.	Geofrey Mgaza	P.O.Box. 233, Handeni, Tanga
16.	Jamers Singano	P.O.Box.7 Bagamoyo
17.	R.A.Mchomvu	P.O.Box 211,Kidatu
18.	Ayubu Samata	P.O.Box. 200 Handeni, Tanga
19.	Jonathan Kwacha	P.O.Box 5088 ARI- Mlingano, Tanga
20.	Bakari M. Mohamed	P.O.Box 37, Bagamoyo
21.	Rose Maeda	P.O.Box. 1755, Morogoro
22.	Billy A,Mshana	P.O.Box. 1686,Morogoro
23.	Masoud Banzi	P.O.Box. 5471,Morogoro
24.	Akwilin J. Tarimo	P.O.Box. 3035 SUA Morogoro
25.	Emmanuel M. Batamuzi	P.O.Box. 3020 SUA Morogoro
26.	Amos Chilagane	ARI-ILONGA KILOSA
27.	Joyce G. Lyimo-Macha	P.O.Box. 3044, Morogoro

Facilitator

	Name	
	Mrs. N. A. Mtenga	P.O. Box 3000, SUA - Morogoro

APPENDIX 3: PARTICIPANTS EXPECTATIONS

1. I will advise farmers on the use of suitable seeds and modern agriculture technology.
2. I will advise farmers to cooperate on different agricultural activities.
3. To acquire modern technology.
4. To rise farmers income.
5. To acquire suitable knowledge on Agriculture practices.
6. To increase farmers income.
7. To learn from researcher/Extension officer.
8. To receive advice from livestock farmers on how to raise income.
9. To learn PRA.
10. To gain more knowledge and skills.
11. To get experiences on PRA
12. To gain knowledge and skills to understand farmers problems.
13. To be motivated.
14. To gain skills in solving life problems.
15. To gain more advance knowledge and to able to disseminate it to farmers and other groups.
16. Knowledge in administration.
17. Be able to plan, implement and evaluate socio-economic activities by involving the society around.
18. To get used to Mikumi environment/situation.
19. To understand problems related to farmer's technologies.
20. Close relationship with farmers.
21. Contribution of PRAs
22. Existing technologies in the villages.
23. Problems on the adoption of technology in the village.
24. How to solve village's problems.
25. To get sustainable development.
26. To advise farmers to use modern Agriculture technology

APPENDIX 4(A) TIMETABLE -1st day

TIME	EVENT	PARTICIPANTS
8.00-10.30	Registration Short description about the project Inauguration Introduction Expectation	Lyimo-Macha Batamuzi Guest of Honour Facilitator
10.30-11.00	Tea	
11.00-12.30	PRA: meaning and its uses	Facilitator
12.30-14.00	Lunch	
14.00-15.30	PRA Method and Techniques	Facilitator
15.30-16.30	To identify the available technologies-Group work	Batamuzi

APPENDIX 4 (B) TIME TABLE –2nd day

TIME	EVENT	PARTICIPANTS
8.30-10.00	Reflection, to identify technologies	Report from Secretary, Communication, Facilitator
10.00-10.30	Evaluation of technologies-Group work	Facilitator Tarimo Lyimo-Macha Batamuzi
10.30-11.00	Tea	
11.00-13.15	Group discussions	Batamuzi Tarimo Lyimo-Macha
13.15-14.00	Lunch	
14.00-15.00	Communication	Lyimo-Macha Batamuzi Tarimo
15.00-16.00	Institutions	Facilitator

APPENDIX 4 (C) TIME TABLE –3rd day

TIME	EVENT	PARTICIPANTS
7.45-8.30	Tea	
8.30-8.45	Reflection, Report from secretaries	Tarimo
8.45-9.30	Institutions: Groups exercise	Lyimo-Macha, Batamuzi,Tarimo
9.30-10.30	Communication	Facilitator
10.30-11.00	Tea	
11.00-12.00 12.00-13.15	Problems analysis Groups exercise	Facilitator
13.15-14.15	Lunch	
14.15-16.00	Communication	Tarimo
16.00-17.00	Closing	Guest of Honour
17.00-18.30	Recommendations, Conclusion Evaluation	Facilitator

APPENDIX 5: ELECTION OF GROUP LEADERS

Chairperson: R, Kiwangala
Assistant Chairperson and Time-keeper: Ms Mariam
Secretaries/Records keeper
1st day: Hamza and Singano
2nd day: Omari and Masoud
3rd day: Tatu and Kwacha

APPENDIX 6: INSTITUTIONS VENN DIAGRAMS

(see another file: institutions (EZ)final version)

6b

APPENDIX 6c

APPENDIX 6 d…

APPENDIX 6 e…

APPENDIX 7: QUESTIONNAIRE USED FOR EVALUATION

Participatory Rural Appraisal with the stakeholders to evaluate the use of the technologies

1) Mention two things that impressed you during this workshop

(a)

(b)

2) Mention other two things that did not impress you during this workshop

3) What should be done so as to improve the next workshop (Just mention one)

APPENDIX 8: EVALUATION RESULTS

1) Two things that I was impressed with during this seminar were:

- Skill gained in PRA and other simple ways to conduct Participatory seminar (18/26)…….70%
- There was good relationship between facilitators and the participants, skill, experience and the charm showed by the facilitators. High ability showed by the facilitators to make every participant to participate and also the language that was used was so simple for everyone to understand. (19/26)……75%
- Identifying several technologies that are within the society (1/26)… 4%
- Involvement of all stakeholders (1/26)… 4%

2) Unimpressive things during the seminar

- Time for the seminar was so short
- Nothing which was not impressive
- Gender imbalance and also unequal number of farmers and livestock keepers (4/26)……15%
- So much technologies that were not utilized (1/26)…….4%
- Information about the seminar were delivered very late (1/26)…4%

3) Recommendations for the future seminars

- The discussion period between groups should be extended and also the information about the seminar should be provided earlier (9/26) … 35%

- The seminars with similar objectives should be conducted in different areas together with the follow-up on the recommendations (9/26)……35%
- During the seminar periods there should be some entertainment i.e. video shows during evening times (2/26)……7.5%

ANY OTHER BUSINESS (AOB)

One of the participants requested elaboration on the farmer's competition and the prizes for the winner. The chairman informed participants that the best way of selecting the best farmer is to allow the farmers themselves and the agricultural experts in the area to choose the best farmer among them.