

**An assessment of the factors that impact the level of success of farmers field school training
in Tanzania: A descriptive study**

by

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DEDICATION

This thesis is dedicated to my beloved late father Kalist Pius Kimati, and my beloved late mother Ester Julius Mzoki for laying down the foundation of my education.

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CHAPTER 1. INTRODUCTION

This is a study of the factors that impact the level of success of farmer field school (FFS) training in Tanzania. Through FFS, farmers can potentially increase their knowledge and productivity by using locally available technology to a particular problem in their local condition. Farmers become knowledgeable through FFS training, and share knowledge with other farmers while implementing what they have learned. However, the FFS extension approach has been funded and used by many countries worldwide but the benefits are still not as much as expected. The purpose of this study was therefore to assess the factors that can impact the level of success of farmer field schools in Tanzania.

Background Information

The Farmers Field School (FFS) is an extension approach originated in Asia as an Integrated Pest Management system (IPM); it was started as an effort to implement participatory farmer training activities in the Philippines. The approach aimed at empowering farmers to be able to face different problems in their fields, look for alternative solutions to problems and decide on the best solution from alternatives. Also, the FFS were to strengthen farmers from a marginalized group to a strong group in the society. The assumption was the belief that as a farmer's learning capacity improves, farmers will achieve greater control over conditions they face in their fields (Pontius et al., 2002). Improvements of the IPM program in the Philippines and the launching of a major new effort in Indonesia in the late 1980s led to the birth of the FFS movement that has since spread across the region and around the world (Pontius et al., 2000). Farmers Field School activities involve taking detailed field observations, analyzing the field observations and presenting the results/conclusions. All these activities are performed by FFS participants (usually 25-30 farmers). Field activities are usually done once a week throughout the whole crop season

and facilitated by Agricultural officials and farmers (Pontius et al., 2000; Gallagher, 2003; Ngini Chhay, 2002).

In East Africa, FFS were started in 1995 with the Food and Agriculture Organization's (FAO's) Special Program for Food Security that ended in 1998. Later in 1999, FAO's Global Integrated Pest Management Facility started the East African Sub-regional Project for Farmer Field Schools in Kenya, Tanzania, and Uganda with support from the International Fund for Agricultural Development (IFAD), Ministry of Agriculture and Livestock Development (MOALD) and the FAO.

FFS became the national extension approach in Tanzania, "In 2006 the government approved the farmer field school approach as one way to develop and disseminate technologies in Tanzania" (FAO, 2008 p. 32).

The approach was found to be an effective tool for farmers to learn in groups through their experience and to facilitate farmers in identifying their problems, identifying their potentials, making sound decisions, solving their problems, and learning new techniques. Davis, et al, (2010) found that crop productivity and per capita agricultural income of female-headed households participating in the FFS project increased significantly in Kenya and Tanzania. However, the increase per capita agricultural income for male-headed households was not significant at the regional level, and in Kenya and Tanzania.

According to the FAO (2008), the following challenges were found: farmers and extension staff do not know enough about how to manage resources sustainably, farmers prefer to work with integrated technologies that address several problems at the same time, and farmers are willing to incur costs for such technologies because of their many benefits. FAO recognized that, "Farmer field school activities have been hampered by delays in fund transfers, problems in

distributing inputs, limited visits from district and national headquarters, and delays in reporting to the authorities” (FAO, 2008 p. 33). Davis et al (2010) suggested “the approach is accessible and beneficial to participants with little or no formal schooling” (p. 18). The majority of farmers in Tanzania have little or no formal schooling.

Need for the Study

This study was developed to assess factors that impact the level of success of FFS training in Tanzania. FAO’s report on FFS training on land and water management showed that farmers and facilitators think that the FFS approach is a good one as it emphasizes facilitation rather than instruction. It is a participatory method of learning, technology development, and dissemination (FAO, 2001). This approach enables farmers to develop solutions that fit their local conditions. FFS are based on adult learning principles such as experiential learning (Davis & Place 2003). Through field observations farmers create awareness and this leads to active learning. While in FFS, members get to know each other well and work as a team as they come together (FAO, 2008). A study done by Erbaugh, Donnermeyer, Amujal, & Kidoido (2010) showed very little diffusion occurred beyond the FFS groups. This hinders the FFS intention to help farmer-to-farmer diffusion of technology. Many studies have been done on FFS training, the results from a study conducted by Davis et al (2008) that involved three countries (Kenya, Uganda & Tanzania) indicated factors affecting FFS participation differed across the three countries. This finding also might be the case within the country, regions, and districts. Many studies on FFS were also done in Tanzania per se, however, there is limited evidence that shows what factors can impact the level of success of FFS training in Tanzania. Mkuranga District is a target area for this study considering that Tanzanian farmers’ characteristics vary from one region to another.

Purpose and Objectives

The purpose of this study was to assess factors that impact the level of success of Farmers Field School training in Tanzania. This research answered the following objectives,

1. To identify the demographic characteristics of the participants in the study.
2. To identify farmer's motivational factors towards Farmers Field School Training
3. To describe factors affecting implementation of Farmers Field School that addresses farmer's priority problems.
4. To describe the impact of Farmers Field School training to FFS members and Non-FFS members.

Significance of the Study

Data collected through this project could be used by the District Agricultural Extension Section to improve and /or add some aspects of FFS planning and implementation. This study could also serve as a basis for further research concerning FFS training in Mkuranga District and other regions with farmers of similar characteristics and similar settings.

Definition of Terms

Adult learning: The learning activities of adults who are not engage in formal study.

Farmer Field School (FFS): A group of farmers, usually consisting of 25-30 farmers who meet once every week for an entire cropping season in one of the member's own fields to learn about their crops and things that affect them.

Integrated Pest Management (IPM): An effective and environmental friendly approach that integrates practices for economic control of pests.

Incentive: Something that encourages or motivates an individual to perform an action.

SPSS: A statistical package for social science

TOFT: The training of farmer-trainers

Chapter Summary

Learning about FFS training and factors that can impact the level of success of FFS training is the key to how the obstacles can be eliminated in order to achieve expected results from the effort the government and non-government organizations, groups, individuals, and public put to maximize the outcome of the training.

CHAPTER 2. REVIEW OF THE LITERATURE

The purpose for this chapter is to review relevant literature to provide evidence to support and further develop the need for this project. This chapter is divided into four sections, it begins with the review of the effects of farmer demographic characteristics on FFS training, the review of motivational factors towards FFS training, followed by the review of factors affecting implementation of FFS training, and the last section is the review of the impacts of FFS training to FFS members and Non- FFS members.

Effects of Farmer Characteristics on Farmers Field School Training Participation

The study conducted by Davis et al indicated that households with younger heads and those away from urban areas were more likely to participate in FFS in Tanzania. Their study indicated that the level of education had no impact on participation in FFS. It was found that “FFS in Tanzania were more accessible to households with less educated farmers” (Davis et al, 2009, p.142). It was also revealed “the majority of FFS participants were drawn from the low/marginalized and middle income groups.” (Davis et al, 2009, p.143).

Motivational Factors Towards Farmers Field School Training Participation

Maslow (1970) wrote that people cannot be concerned about recognition, achievement and self-actualization until they meet basic needs for survival, safety and belonging.

An adult is more problem-centered than subject-centered in learning (Knowles, 1980), and adults are motivated to learn by internal factors rather than external ones. Adults are motivated to learn when what they learn can help them to solve problems or are of immediate use. As stated by Wlodkowski (1985), when adults are given what they need and desire, they will tend to be highly motivated. Adult learning is also needs driven.

The study that was done by Dollisso & Martin (1999) showed farmers perceived motivation to learn as related to ambition to succeed, personal desire to learn, usefulness of the content material, immediacy of the need and satisfaction from achievement. For this, it can be said that these farmers were participating in educational programs mainly for economic reasons.

Four motivational factors for learning are attention, relevance, confidence, and satisfaction as identified by Knowles, (1984). These motivational factors for learning were also identified by Keller and Suzuki (1988), and Keller and Kopp (1987).

Adults seem to begin new learning ventures with some ideas of what they will gain from doing so (Knowles, 1990). Adults do not want to learn something that will not benefit from.

Implementation of Farmers Field School Training

Abduke & Legesse (2006) in their study done in Ethiopia suggested the curricula and learning methods for adult education are poorly designed or practiced. They further explained that there is a scarcity of experienced facilitators and difficulties in retaining and engaging trainers without some form of incentive. Their study revealed that it is difficult to involve many farmers at a time due to the nature of the approach. Also there are poor linkages between farmers and formal research, and inadequate collaboration among partner institutions.

In order for implementation to be effective and sustain FFS training it is advised that “The best experiences and practices must be documented and disseminated and build capacity. They should aim to improve local abilities to plan, establish, run and scale up farmer field schools”(Abduke and Legesse, 2006). The study by Machacha (2008) showed that groups that were well funded were not always more independent than those that were poorly funded or self-financed. This seemed like it may lead to a lack of the sense of ownership. Another study done in Tanzania by Kaihura, Temi, and Julianus (2008) indicated some factors that can affect FFS implementation.

These factors are: some farmers dropped out due to their expectations not being met or due to a dispute with other farmers or with the facilitator, lack of extension staff in some districts, complex fund transfer arrangements delayed, and small funding support from district administrations.

Impact of Farmers Field School Training

The results from a study by Davis et al showed impact of FFS participation across education-level groups “ indicating that per capita agricultural income of households whose head had no formal education increased more than the case for other education groups” (Davis et al, 2008 p. 28). This impact is good especially for the group that many communities consider them somehow disadvantaged by lacking formal education. The FFS training indicated a great impact on farming families, as seen in the study by Davis et al (2009) FFS can bring about positive results for small-scale farmers. The FFS farmers learned more and adopted significantly greater numbers of technologies as compared to non-FFS farmers.

The study conducted by Quizon, Feder, and Murgai (2004) explained the concept for reducing the fiscal burden of funding is to encourage FFS graduates to undertake training of farmer-trainers (TOFT). These individuals would train other farmers so that the dependence of FFS on official funding support is reduced. Something like this approach is promising for more coverage and sustainability. The study conducted by Davis et al, (2009) indicated there are positive results including increases in productivity, especially for women farmers in some cases. Davis et al, (2009) found also that crop productivity and per capita agricultural income of female-headed households participating in the FFS project increased significantly in Kenya and Tanzania.

The Integrated Nutrient Management to Attain Sustainable Productivity (INMASP) study supported this by writing that farmer field schools change the wellbeing of members in a number

of ways such as being able to raise their farm incomes, improve their farming practices and boost their crop yields (INMASP, 2006). Loevinsohn, Meijerink & Salasya (1998) wrote in their study report that crop yields have risen by 20–100% on study plots and in farmers' fields. Another study done by Davis et al (2010) indicated that the value of crop productivity for FFS members increased by 23 percent in Tanzania. Another study by Kaihura, Temi, & Julianus (2008) in Tanzania indicated the farmer field schools reduced food insecurity and opened access to support from development institutions and projects. Also, a study by Onduru, Gachimbi, Jager, and Muchena (2003) indicated the farmer field schools have helped in building a close relationship between farmers and extension workers.

Conceptual Framework

The conceptual framework of this study is based on suggestions from previous research on FFS training. Farmer Field Schools (FFS) on IPM have been deployed around the world since their success in Southeast Asia. Erbaugh et al(2010) suggested that assessments are needed to evaluate, modify and improve their effectiveness. Davis (2004), Place et al. (2002) and Stringfellow, et al. (1997) suggested that it is important to support farmer organizations as a major vehicle for farmer development. FFS training is a group approach. This approach needs more support to improve its implementation. Birners, et al 2006; Davis 2006 in their studies indicated that a best-fit solution is important. FFS train farmers to find solutions that best fit their local situation among alternatives.

Behavioral change, or adoption of a complex agricultural technology such as IPM, cannot be expected without a sustained educational effort to raise awareness, technological understanding and competence, and lower perceptions of risk (Rogers, 1995). It was suggested by Erbaugh et

al, (2010) that extension agents take a message to the field and provide follow-up visits for FFS training to be successful. Messages with no follow-up are not likely to yield adoption results.

Basis for the Research

This study was based on the premise that understanding factors that impact the level of success of farmers field school training will help to improve the FFS training implementation. The FFS training will improve agricultural extension in Tanzania in the long run. These factors will be studied on motivational factors for farmers to participate in FFS training, factors that affect the implementation of FFS training in the part of farmers as well as extension agents, and the impact of FFS training.

Research Questions

The following research questions that are based on the study's objectives will be answered:

1. What are the factors that motivate farmers to participate in Farmers Field School Training?
2. What are the factors that affect Farmers Field School training?
3. What is the impact of Farmers Field School training on FFS members and Non-FFS members?

Chapter Summary

Knowing what has already been researched provided the basis for this research. It provided information about aspects of the study that helped to compare results of this study with other studies. The review of the literature based on objectives of the study: motivational factors towards FFS training, factors affecting implementation of FFS training, and the impact of FFS training to FFS members and non FFS members (through farmer to farmer training). The research questions that helped to answer the objectives of the study were: what are the factors that

motivate farmers to participate in Farmers Field School Training? What are the factors that affect Farmers Field School training? What is the impact of Farmers Field School training on FFS members and Non-FFS members? More information was needed because these may vary greatly from country to country, and from region to region. This study looked at these characteristics in one district that is more similar to districts within coastal regions of Tanzania.

CHAPTER 3. METHODS AND PROCEDURES

The purpose of this chapter was to describe the methods and procedures used to collect and analyze data for this study. This section also describes the rationale for the methods and procedures used in this study.

Research Design of the Study

The research design for this study was descriptive. Ary, Jacobs, and Razavieh (1990) stated that a descriptive study is directed towards determining the existing situation at the time of the study. The study comprised of personal interviews. The interviews were guided by using a semi-structured questionnaire to allow flexibility for both the researcher and the interviewee.

Validity may be threatened by respondents' failure to give true information intentionally or by failure to understand, and the researcher may interpret information in a different perspective from that of respondents. "If the validity or trustworthiness can be maximized or tested then more credible and defensible results" (Johnson, 1997, p. 283). To ensure valid data was obtained open-ended questions were used to help obtain information that required clear explanatory responses from respondents.

The researcher collected data from participants in the study through face-face interviews using a questionnaire while probing questions that were not clearly understood by respondents. "In any qualitative research, the aim is to engage in research that probes for deeper understanding rather than examining surface features" (Johnson, 1995p. 4). Experts and peers reviewed researcher's interpretation of the data collected from respondents.

Instrumentation

Data for this study were collected using a semi-structured questionnaire. This approach allowed flexibility on questions that required explanation. Questions were framed in a way that addressed the objectives of the study in sections. The first section was about the respondent demographic characteristics. Questions were about respondent age, gender, marital status, and educational level.

The second section was about respondent motivational factors to participate in FFS training. Questions asked what made them join the FFS training, incentives they wished to receive for participating in FFS training, and benefits they expected from participating in FFS training.

The third section was about factors that impact the level of success of FFS training. Questions were how the FFS group was formed, if subject matter taught was their priority, how many times they met, how many times they failed to attend, if respondents did not understand the content taught, if facilitator failed to show up and the respondents opinion on the subject mastery by the facilitator.

The fourth section was about the impact of Farmers Field School training on members and non-members in the village. Questions asked focused on if the respondent implements what he/she learned, if the respondents noticed changes from the FFS training, if Non-FFS farmers asked for advice from respondents, and if Non-FFS farmers followed the advice offered. In order to ensure face and content validity, the institutional review board (IRB) and graduate study committee members reviewed and approved the instrument. A pilot study that involved 10 farmers was conducted in one village in Mkuranga District to test reliability of the instrument.

Data Collection Procedures

The study was conducted in the Mkuranga District, one among six districts that form the Pwani Region. The district was established in 1995, when the eastern part and coastal area of the Kisarawe district was divided into two districts, which are Kisarawe and Mkuranga. The district is relatively small covering 2,432 square kilometers and has about 90 kilometers of coastline.

The subjects for this study were Mkuranga District farmers who were FFS graduate members. The study sample consisted of 80 farmers of which 32 were males and 48 were females. Subjects for the study were selected using two stages, the first stage through purposive sampling and second stage through lottery method.

According to Platt (1992) in purposive sampling subjects are intentionally selected to represent some explicit predefined traits or conditions. Participants were selected from FFS groups. Subjects included in the study were determined by their participation in FFS training. This information was determined by exploring the group attendance register and village extension agent's information. Farmers who met the criteria for participating in the study and then selected through purposive sampling were listed for a chance to be selected for the study by using a lottery method. To ensure gender balance there was a list of men and a list of women in order to reach a target of having both groups (men and women) equally represented in the study.

The researcher explained to participants what the research is for, what they are expected to do, what they should expect from their participation in the study and how the research would be conducted in regards to their safety. A signed consent form was completed prior to interviews. Respondents were allowed to withdraw from participating in the study at any time of the study without any penalty or threat and were not required to return any benefit received by participating in the study. To ensure confidentiality, the information from the respondents were

used by the researcher only for the research purposes. In order to ensure anonymity codes were used instead of the respondent real names during collecting data, analyzing data, and reporting data.

Data Analysis Procedures

The Statistical Package for Social Science was used to analyze the data. Descriptive statistics of means, standard deviations, and percentages were established to describe the population.

Assumptions Made by Investigator

For the purpose of this study, the following assumptions were made:

1. All the responses from farmers were honestly answered to the best of their knowledge.
2. All respondents in this study were true representatives of the target population.
3. Results from this study can be useful to improve Farmers Field School Training in an effort to help changing lives of farmers in mkuranga district, and farmers from areas with similar settings and characteristics.

Limitation of the Study

Farmers' characteristics and their local settings differ from one region to another, something that can limit generalization of the results from this study. Results from this study should be generalized only to regions with similar farmer characteristics, but not be generalized to all Tanzanian farmers since this study was conducted in the coast region, mkuranga district where some characteristics of farmers in the region are quite different from other regions in Tanzania.

CHAPTER 4. RESULTS AND FINDINGS OF THE STUDY

The purpose of this study was to assess factors that impact the level of success of Farmers Field School training in Tanzania. The following four specific objectives were served to accomplish the study,

1. To identify the demographic characteristics of the participants in the study.
2. To identify farmer's motivational factors towards Farmers Field School Training
3. To describe factors affecting implementation of Farmers Field School that addresses farmer's priority problems.
4. To describe the impact of Farmers Field School training to FFS members and Non-FFS members.

The aim of this chapter is to present the research findings obtained after analysis of data related to factors that impact the level of success of Farmer Field School (FFS) training in Tanzania. A pilot study was done to test reliability of an instrument prepared for data collection. Few corrections were made to avoid confusion or unnecessary repetition. No respondent dropped out the study. The researcher was able to get 100 percent response rate after making a follow up of a few non-respondents.

The chapter is divided into four major sections. The first section describes demographic characteristics of farmer respondents. The second section focused on farmer respondent opinions on potential motivational factors that impacted their participation in FFS training. The third section focuses on farmer respondent opinions on factors that may affect FFS training. The fourth section focused on farmer respondent opinions on the impact of FFS training on farmers.

Objective 1

The Demographic Characteristics Of The Participants In The Study

Farmer characteristics were personal and situational characteristics. It is important to examine these characteristics as they may have effects on Farmer Field School training. Farmer demographic characteristics were grouped into two categories, which are personal characteristics and situational characteristics.

1. Farmer personal characteristics

Important farmer personal characteristics examined were sex, age, marital status and education level. The results of farmer personal characteristics are as shown in table 1 below.

Table 1. Percentage distribution of farmer respondents (n=80) by personal characteristics

Farmer personal characteristics	Number	Percentage
Sex		
Male	32	40
Female	48	60
Age		
18 - 35	11	13.75
36 - 45	25	31.3
46 and above	44	54.95
Marital Status		
Single	12	15.00
Married	49	61.25
Divorced	13	16.25
Widowed	6	7.5
Level of education		
Primary	24	30.00
Secondary	5	6.25
No- formal	47	58.75
None	4	5.00

Sex

Female respondents made up 60% of respondents and male respondents were 40%.

Age

Age distributions in the study area indicated that farmer respondents of age between 18-35 were 13.75 percent. Farmer respondents of age between 36-45 were 31.3 percent while the remaining 54.95 percent were from age 46 and above.

Education level

The majority of the respondents (58.75%) had no formal education, 30% had primary education, 6.25% had secondary education, and those who were illiterate were 5%.

Marital status

The study results indicated that the majority of the respondents (61.25%) were married, 16.25% were divorced, 7.5% were widowed, and 15% were single.

2. Farmer situational characteristics

Farmer situational characteristics examined in this study were farmers who produce cassava, cassava variety they produce, acres they produce cassava, where they sell cassava and cassava products, and monthly income. These characteristics may have effects on level of success of FFS training.

Farmer situational characteristics were presented in table 2 bellow.

Table 2. Percentage distributions of farmer respondents (n=80) by situational characteristics (N=80)

Farmer situational characteristics	Number	Percentage
Cassava production		
Yes	79	99.2
No	1	0.8
Variety		
Nyamkagile only	0	0.00
Kiroba only	27	33.75
Cosmas only	0	0.00
Mixed varieties	53	66.25
Acres for cassava		
Below 2 acres	46	57.50
2-5 acres	25	31.25
More than 5 acres	9	11.25
Monthly income		
Less than 50,000	24	30.00
50,000-100,000	5	6.25
Above 100,000	47	58.75
Did not answer	4	5.00

Cassava production

Respondents who produced cassava were 99, and only one respondent did not produce cassava.

Cassava varieties

The study indicated that 33.75% of the people in the study area produce kiroba variety of cassava due to its high yield potential and shelf life. Many respondents (46.25%) produce mixed varieties.

Acres used for cassava production

Over fifty seven percent of the respondent farm between 1 and 2 acres of cassava, 31.25% use between 2 and 5 acres for cassava, and 11.25% farm more than 5 acres of cassava.

Monthly income

The majority of the respondents (62.5%) income is less than 50,000 (Tshs) per month, and 22.5% had income ranging from 50,000- 100,000 per month, while 15% of the respondents income per month was above 100,000 (Tshs). (Current exchange of July 2015 is 1 USD = 2000 Tshs).

Objective 2

Farmer's Motivational Factors Towards Farmers Field School Training

Table 3. Percentage distributions of farmer respondent (n=80) by reason made them decide to join FFS Training

Motivational factor	Frequency	Percent
Reason		
Were convinced to join	11	13.75
They expected to gain knowledge (motivated to learn)	40	50.0
They expected to get incentives (money, inputs)	29	36.25
Total	80	100.00

Reason to join

Respondents who decided to join the FFS Training were 50%. Some respondents (13.75%) said they did not want to join but were just convinced by their fellows while the remaining respondents (36.25%) said they joined because they thought they could receive some money and other incentives.

Table 4. Percentage distribution of farmer respondents (n=80) by the knowledge they wish to gain on cassava production

Knowledge	Frequency	Percent
Land preparation	80	100
The use of improved varieties	80	100
Disease prevention and control	80	100
Spacing	80	100
Market search	80	100
Value addition	80	100

Knowledge they wish to gain on cassava production

All respondents (100%) wish to gain knowledge on land preparation, improved varieties, cassava diseases prevention and control, proper spacing, cassava value addition, and market search.

Objective 3

Factors Affecting Implementation Of Farmers Field School That Addresses Farmer's

Priority Problems

Group formation

Nearly 50% of the respondents said they joined because they needed to learn with their fellow farmers. Some respondents (25%) mentioned that their group had already been formed with a purpose other than the Farmers Field School, and 28.75% said they joined because they were convinced to join by their fellow farmers.(See table 5 below)

Table 5. Percentage distributions of farmer respondent (n=80) by their group formation

How their groups was formed	Frequency	Percent
Already existed before FFS	20	25
Convinced to join	23	28.75
Decided to join to learn	37	46.25
Total	80	100

Subject matter

Some respondents (53.75%) said that the subject matter taught was not their priority while some (46.25%) said it was their priority.

Table 6. Percentage distributions of farmer respondent (n=80) by subject matter priority

If subject matter was their priority	Frequency	Percent
Yes	37	46.25
No	43	53.75
Total	80	100

Extension services per month

The majority of the respondents (78.75%) were not receiving extension services individually outside the FFS Training. Over 16% of the respondents were receiving extension services twice per month, and 5% of the respondents were receiving extension services once per month.(See table 7 bellow)

Table 7. Percentage distributions of farmer respondents (n=80) by days of receiving extension service per month

Days per month	Frequency	Percent
None	63	78.75
Once	4	5
Twice	13	16.25
More than twice	0	0
Total	80	100

Objective 4

The Impact of FFS Training to FFS Members and Non-FFS Members

Knowledge spread

Fifty-two percent of the respondents said they advise 1 to 5 fellow farmers per year. Respondents who gave advice to 6 to 10 farmers per year were 33.75%, and the rest 13.75% gave advice to more than 10 farmers per year.

Table 8. Percentage distribution of farmer respondents (n=80) by knowledge they spread

Advice to non-members	Frequency	Percent
Less than 5	42	52.5
6 to 10	27	33.75
More than 10	11	13.75
Total	80	100

Technology implementation

Respondents reported they implemented technology they learned as follows: land preparation 83.75%, the use of improved varieties 91.25%, disease prevention 72.5%, proper spacing 81.25%, and cassava value addition 32.5%.

Table 9. Percentage distributions of farmer respondent (n=80) implementation of what they learned in FFA Training

Implementation of technologies	Frequency	Percent
Land preparation	67	83.75
The use of improved varieties	73	91.25
Disease prevention	58	72.5
Proper spacing	65	81.25
Cassava value addition	26	32.5

Changes made

The study results indicated that 98 percent of respondents noticed their productivity increased after receiving FFS training. All respondents (100%) said they increased their knowledge through FFS training participation, and 86.25 percent of the respondents mentioned they were more accessible to market information and 95 percent said they increased relationships with other farmers and extension agents.

Table 10. Percentage distribution of farmer respondents (n=80) by changes noticed from participating in FFS Training

Changes	Frequency	Percent
Increased productivity	79	98.75
Knowledge increase	80	100
Market information increased	69	86.25
Increased relationship	76	95

CHAPTER 5. DISCUSSION OF THE RESULTS

The purpose of this study was to assess factors that impact the level of success of Farmers Field School training in Tanzania. The following four specific objectives served to accomplish the study,

1. To identify the demographic characteristics of the participants in the study.
2. To identify farmer's motivational factors towards Farmers Field School Training
3. To describe factors affecting implementation of Farmers Field School that addresses farmer's priority problems.
4. To describe the impact of Farmers Field School training to FFS members and Non-FFS members.

The aim of this chapter was to discuss the findings presented after analysis of data obtained from the study.

Objective 1

The Demographic Characteristics Of The Participants In The Study

Farmer characteristics were personal and situational characteristics. It is important to examine these characteristics as they may have effects on Farmer Field School training. Farmer demographic characteristics were grouped into two categories, which are personal characteristics and situational characteristics.

1. Farmer personal characteristics

Important farmer personal characteristics examined were sex, age, marital status and education level.

Sex

Female respondents made up 60% of respondents and male respondents were 40%. The results of the study indicated that females were more engaged in local cassava production than males. Most women in the coastal areas spend a lot of time at home so they can engage more in production and farming activities than men. Their farms are also closer to their houses, men spend most of their time in small business, playing local games “draft” and chitchat with peers. Similarly Davis et al, (2010) found that FFS participation was equally available to both male and female community members, (P.10).

Age

Age distributions in the study area indicated that over 13% of the farmer respondents were between 18 years-35 years. Farmer respondents of age between 36 years-45years amounted to 31.3 percent while the remaining respondents (54.95%) were from age 46 years and above. The results of the study suggested that people of different age groups engage in Farmers Field School. Youths do not engage much in farming activities as expected. Unlike this finding, findings by Davis et al indicated that households with younger heads and those away from urban areas were more likely to participate in FFS in Tanzania (Davis et al, 2009, p.142). This might be due to the fact that, mkuranga district is very close to the big city of Dar es salaam so young people migrate to look for job and business opportunities.

Education level

The majority of respondents (58.75%) had no formal education, 30% had primary education, 6.25% had secondary education, and those who are illiterate were 5%. The study indicated that most people in the study area had no formal education and to some extent primary education.

This study indicated that farmers with less education join different training programs conducted in the village more than educated farmers. Also respondents who were illiterate were very few although the illiterate level in the study area is high. Literacy level has influence on FFS Training participation in the study area. This finding is similar to an earlier study done in Tanzania, which indicated that, “FFS in Tanzania were more accessible to households with less educated farmers” (Davis et al, 2009, p.142).

Marital status

The study results showed that the majority of the respondents 61.25% were married. This implies that members who are married can effectively participate in production activities due to the support from a marriage partner than singles and other groups who lack support. Married couples are at least assuming permanent settlement as compared to singles that are likely to move, as they do not have as many family commitments.

2. Farmer situational characteristics

Farmer situational characteristics examined in this study were farmers who produce cassava, the cassava variety they produce, number of acres on which they produce cassava, where they sell cassava and cassava products, and monthly income. These characteristics may have effects on the level of success of FFS training.

Cassava production

Ninety nine percent of the respondents produced cassava. This information shows that the majority of people in the study area depend on cassava production for food and as well as a source of income.

Varieties

The study indicated that 33.75% of people in the study area produce kiroba variety of cassava due to its high yield potential and shelf life. Many respondents (46.25%) produce mixed varieties, which are cosmas and nyamkagile for food due to the good taste and kiroba for business purposes. This finding implies that farmers understand the best variety they can produce for business purposes due to its long shelf life and high yield potential. Similar findings by Birners, et al 2006; Davis 2006 suggested that, it is important to come up with sensible and smart best fit solutions.

Acres used for cassava production

Over fifty seven percent of the respondent farm between 1 and 2 acres of cassava, 31.25% use between 2 and 5 acres for cassava, and 11.25% farm more than 5 acres of cassava. This finding implies that most of the people in the study area used a very small portion of their land for production, which cannot improve the living condition of smallholder farmers. Those who use more than 10 acres were very few such that their impact on development is very little. Davis, et al, (2010) suggested that, farmers working small land areas could be resource poor hence with limited capacity to invest in technologies promoted by the FFSs, (p. 12).

Monthly income

The majority of the respondents (62.5%) had income less than 50,000 (Tshs) per month, and 22.5% had income ranging from 50,000- 100,000 per month, while 15% of the respondent income per month was above 100,000 (Tshs). From the study it seems that most of the farmers who participated in the FFS were from low-income families, which makes it very similar to the earlier finding that, “the majority of FFS participants were drawn from the low/marginalized and middle income groups.” (Davis, et al, 2009, p. 143).

Objective 2

Farmer's Motivational Factors Towards Farmers Field School Training

Reason to join

Fifty percent of the respondents decided to join the FFS Training as they expected they would share useful knowledge with other farmers and find the best-fit solutions for challenges they face in their field together on cassava production from planting to harvest. Some respondents (13.75) said they did not want to join but were convinced by their fellow farmers while the rest (36.25) said they joined because they thought they would get some money and other incentives. This implies that the majority of the farmers may not have received correct information on what the training was for, what to expect and what they are expected from their FFS training participation. The researcher noticed there were a number of FFS training members who dropped out before graduation after knowing the training had a different purpose and the expected outcomes were different from what they were thinking. This finding is more like the study by Wlodkowski. According to Wlodkowski (1985), adults tend to be highly motivated when they are given what they need and desire. This implies that, before any project is conducted it is important to do a needs assessment and awareness creation so farmers can understand the details of the project before it is started.

Knowledge they wish to gain on cassava production

All of the respondents (100%) wanted to gain knowledge on land preparation, improved varieties, cassava diseases prevention and control, proper spacing, cassava value addition, and market search. This finding indicated that the FFS training facilitators should consider farmers expectations to motivate them. Similar to Knowles (1990) findings that, adults begin new learning ventures with some ideas of what they will gain from the learning.

Objective 3

Factors Affecting Implementation of Farmers Field School that Addresses Farmer's Priority Problems

Group formation

Many respondents (46.25%) said they joined the FFS because they needed to learn with their fellow farmers. Some respondents (25%) mentioned that their group was already existed with a purpose other than the Farmers Field School, and 28.75% said they joined because they were convinced to join by their fellow farmers. This is another indication that farmers did not have the correct information about the FFS training program. According to Davis, et al, 2010, membership in savings and credit groups and farmer groups other than FFSs also significantly increased the propensity to participate in FFSs (p. 10). Davis finding shows that, farmers from groups had correct information about the FFS and so their chance to participate was high.

Subject matter

Some respondents (53.75%) said that the subject matter taught was not their priority while other (46.25%) said it was their priority. This showed that the subject matter taught in few groups was not what they needed to learn. Needs assessment is very important in order to know what people really need so the project can succeed. This finding is also seen in other studies that indicate, a best-fit solution that is smart and makes sense is important (Birners, et al, 2006; Davis, 2006)

Extension services per month

A majority of the respondents (78.75%) were not receiving extension services individually outside the FFS Training. Over 16% of the respondents were receiving extension services twice per month, and 5% of the respondents were receiving extension services once a month.

The results of the study indicated that extension agents are unable to reach many farmers per month as suggested by Erbaugh et al (2010) that extension agents need to take the message to the field and provide follow-up visits for FFS training to be successful. This is due to the lack of transport and the high number of farmers to be served per extension agent. The study done in Tanzania by Kaihura, Temi, & Julianus (2008) also indicated that lack of extension staff in some districts is one of the factors that can affect FFS implementation.

Objective 4

The Impact Of FFS Training To FFS Members And Non-FFS Members

Knowledge spread

Fifty two percent of the respondents said they advise 1 to 5 fellow farmers per year. Respondents who gave advice to 6 to 10 farmers per year were 33.75%, and the remaining 13.75% gave advice to more than 10 farmers per year. The study indicated that, the FFS is a good tool for spreading knowledge between farmers. The FFS reduces the burden of funding Extension by the government. The FFS also reduce the burden on extension agents with wide coverage areas to reach every farmer because there are not enough extension agents. This finding is similar to the findings from the study conducted by Quizon, Feder, and Murgai (2004) who explained the concept of reducing the fiscal burden of funding and to encourage FFS graduates to undertake training of farmer-trainers (TOFT)

Technology implementation

Respondents reported they implemented technology they learned as follows: land preparation 83.75%; the use of improved varieties 91.25%; disease prevention 72.5%; proper spacing 81.25%; and cassava value addition (processing) 32.5%. This finding indicated that farmers adopted almost every technology they learned in the FFS training. Even those who did not adopt

gave reasons that it is laborious to do all recommended activities, for example, proper spacing as it takes time to finish the farm, but they admit it was worthy.

Changes made

The study results indicated that 98 percent of the respondents noticed their productivity increased after receiving FFS training. All respondents (100%) said they increased their knowledge through FFS training participation. Over eighty six percent of the respondents mentioned they were more accessible to market information and 95 percent said they increased relationship with other farmers and extension agents. Through good relationships with the extension agent, who acts as a link between farmers and the government, helped increase the support from the government and other development agencies. Similarly, Onduru, Gachimbi, Jager, & Muchena (2003) indicated the farmer field schools have helped in building a close relationship between farmers and extension workers. And also, Kaihura, Temi, & Julianus (2008) indicated the farmer field schools reduced food insecurity and opened access to support from development institutions and projects in Tanzania.

CHAPTER 6. SUMMARY, CONCLUSIONS, RECOMMENATIONS AND IMPLICATIONS

The purpose of this study was to assess factors that impact the level of success of Farmers Field School training in Tanzania. The following four specific objectives were served to accomplish the study,

1. To identify the demographic characteristics of the participants in the study.
2. To identify farmer's motivational factors towards Farmers Field School Training
3. To describe factors affecting implementation of Farmers Field School that addresses farmer's priority problems.
4. To describe the impact of Farmers Field School training to FFS members and Non-FFS members.

Summary

The results of the study indicated that female farmers were more engaged in local cassava production than male farmers, especially married couples. Farmers of different age groups engage in Farmers Field School but young people do not engage much in farming activities as expected. Farmers with less education join different training programs conducted in the village more than educated farmers. There were a number of FFS training members who dropped out before graduation after knowing the training is different purpose and expected outcomes are different from what they were thinking.

Most of smallholder farmers in the study area used a very small area of their land for cassava production, they use most of their land for cashew nuts production which can only be harvested once annually. Most of the smallholder farmer's in the study area have very low income per month, which is difficult to cover all expenses and to manage their production expenses. The

study showed that knowledge on cassava production is not communicated enough to other farmers due to very low farmer-to-farmer contact. The majority of farmers did not get useful and correct information on what the training was for, what to expect and what they expected from their FFS training participation. The subject matter taught in some groups was not what they needed to learn. The results of the study indicated that extension agents are unable to reach many farmers per month. The results of the study indicated that, the FFS is a good tool for spreading knowledge between farmers if the farmers know what they are expected to do after training. This finding indicated that farmers adopted almost every technology they learned in the FFS training. The study results indicated that respondents noticed their productivity, knowledge, access to market information, and relationships with other farmers and with extension agents increased after receiving FFS training. There were indirect impacts of the study, for example farmers gain knowledge through looking what FFS members are doing, and through seeking advice from members.

Conclusion

The following conclusions can be drawn from the study:

1. It appears that Farmers Field Schools are useful. This type of training shows success with farmers who have specific needs as long as needs fit the solution.
2. This study clearly indicates that FFS training must be focused and based on the specific needs of farmers. Farmers as adult learners are needs driven, if the FFS Training is based on their needs then the outcomes will be very successful.
3. Food crops appear to be a needed focused topic for training for participants in this study. Food is a challenging need so do this study based on cassava crop, which is one among the major staple food in the study area.

4. This study emphasizes that farmers need incentives to participate in Farmer Field Schools.

Recommendations

The following recommendations are based on the results of this study of the factors that impact the level of success of Farmers Field School training in Tanzania.

1. In order for more positive outcomes to be seen, the government will have to make sure that more support is directed towards improving the FFS training through empowering extension agents technically and put more emphasis on cost sharing between the government and farmers to help instill a sense of ownership to farmers.
2. The district office should arrange training for new extension agents on FFS because it seems most of extension agent conduct the FFS training in their own way without following the daily activities guidelines for conducting FFS training.
3. Farmers should be given correct and detailed information about the FFS so that they will be aware of the aim, purpose, and what they should expect from their participation in FFS training to avoid misconception about the FFS.
4. The district council should make sure politicians are not using agricultural programs such as FFS training by interfering with professional activities so that they can win farmer's trust for them to be elected again. Many of the FFS started under political pressure, they were so many and they were neither successful nor active, and the number of FFS groups documented is very different from the active FFS groups.

Recommendations for Future Research

1. Future research should concentrate specifically on motivational factors affecting implementation of FFS training that addresses extension agent's problems such as transport, allowance, and technical support as they seem to highly affect FFS training.

Implications of the study to agricultural extension

Understanding the factors impacting the level of success of the FFS training as one of extension approach is crucial. This study demonstrated factors that can help to improve the FFS training in Tanzania by using qualitative data from participating farmers after the training. Due to the lack of enough extension agents and funds it is better for the government to offer extension services to groups of farmers rather than individuals. The FFS training is a group based extension approach, and also has the potential to be effective under different agro-ecosystems, livelihoods, and farming systems.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL FORM

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 7/25/2014

To: Upendo Kalist Kimati
c/o Denise Bjelland - 18 Curtis Hall

CC: Dr. Robert Martin
201 Curtiss Hall

From: Office for Responsible Research

Title: An Assessment of the Factors that Impact the Level of Success of Farmers Field School Training in Tanzania:
A Descriptive Study

IRB ID: 14-334

Study Review Date: 7/25/2014

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
 - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
 - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please be aware that **approval from other entities may also be needed**. For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that**

APPENDIX B: LETTER INTRODUCTION

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Department of Agricultural Education and Studies
201 Curtiss Hall
Ames, Iowa 50011-1050
Administration and Graduate Programs 515 294-5872
Undergraduate Programs 515 294-6924
Extension Programs 515 294-4076
FAX 515 294-0530

For: To Whom It May Concern

Re: Letter of Introduction

The purpose of this document is to present a "Letter of Introduction" for your information regarding a research study to be conducted focused on Agricultural Extension Education in selected areas of Tanzania. This study will be conducted on-site by Upendo Kalist Kimati.

The agricultural extension systems that exist in many countries have a long history of serving farmers as they strive to increase crop and livestock production. Extension Systems around the world are in constant search for improved production and management practices as well as searching for the best ways to communicate with farmers regarding learning and using these improved practices.

In an effort to discover and use the best practices to deliver educational program training, we are preparing to conduct a research study entitled An Assessment of the Factors that Impact the Level of Success of Farmer Field School Training in Tanzania: A Descriptive Study. We need your help and cooperation.

We propose to randomly select farmers and Extension agents in the Mkuranga District, with whom we will conduct interviews. These interviews will focus on identifying motivational factors toward Farmer Field School training and factors affecting implementation and impact of this training.

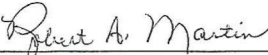
Participation in this study is strictly voluntary. Furthermore, participants can skip any questions they prefer not to answer. Responses to all questions will be held in strict confidence and only used for group analysis. To ensure confidentiality, there will be no personal identifying information on the survey form. Each interview will take approximately 30 minutes to complete.

The findings of this study will be used to complete a Masters degree in Agricultural Education with a Specialization in Agricultural Extension Education at Iowa State University, U.S.A., in cooperation with Sokoine University of Agriculture (SUA) in Tanzania. This study has been reviewed and approved by the Iowa State University Institutional Review Board for use of information from human subjects.

We expect the findings of this study will provide guidelines to identify training practices and ways to enhance Agricultural Extension programs in Tanzania. Findings from the study will be shared with all interested individuals who may find the results of the study useful.

If you have any further questions regarding the study, please contact Upendo Kimati at (phone number 0786294591 and email upendo2kims@yahoo.com) or Robert A. Martin at drmartin@iastate.edu. If you need assistance in reaching either of these individuals, please contact Emmanuel Rwambali at +255784522755 or rwambali@iagri.org.

Thank you,


Robert A. Martin, Ph.D.
Major Professor


Upendo Kalist Kimati
Graduate Student

APPENDIX C: CONSENT LETTER

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

For: To Whom It May Concern

Re: Participant Introductory Statement
Research Study on Agricultural Extension

Department of Agricultural Education and Studies
201 Curtiss Hall
Ames, Iowa 50011-1050
Administration and Graduate Programs 515 294-5872
Undergraduate Programs 515 294-6924
Extension Programs 515 294-4076
FAX 515 294-0530

The agricultural extension systems that exist in many countries have a long history of serving farmers as they strive to increase crop and livestock production. Extension systems around the world are in constant search for improved production and management practices as well as searching for the best ways to communicate with farmers regarding learning and using these improved practices.

In an effort to discover and use the best practices to deliver educational program training, we are conducting a research study entitled An Assessment of the Factors that Impact the Level of Success of Farmer Field School Training in Tanzania: A Descriptive Study. We need your help.

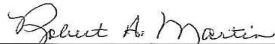
Your participation in the study is very important; therefore, we value your input. You have been randomly selected to participate in this study through an interview. It is important for you to know that your participation in this study is strictly voluntary. Furthermore, you can skip any question that you do not feel comfortable answering. Your responses will be held in strict confidence and only used for group analysis and description. To ensure confidentiality, there is no personal identifying information on the survey form. Each interview will take approximately 30 minutes to complete.

The findings of this study will be used to complete a Masters degree in Agricultural Education with a Specialization in Agricultural Extension Education at Iowa State University, U.S.A., in cooperation with Sokoine University of Agriculture (SUA) in Tanzania. This study has been reviewed and approved by the Iowa State University Institutional Review Board for the use of information from human subjects.


We expect that the findings of this study will provide guidelines to identify training priorities and ways to enhance Agricultural Extension programs in Tanzania. The results of this study have the potential of increasing crop and livestock production on farms like yours through improved Extension services. Findings of this study will be shared with all interested individuals who may find the results of the study useful.

If you have any further questions regarding the study, please contact Upendo Kimati at (phone number 0786294591 and email upendo2kims@yahoo.com) or Robert A. Martin at drmartin@iastate.edu. If you need assistance in reaching either of these individuals, please contact Emmanuel Rwambali at +255784522755 or rwambali@iagri.org.

Thank you,



Robert A. Martin, Ph.D.
Major Professor



Upendo Kalist Kimati
Graduate Student

APPENDIX D: QUESTIONNAIRE FOR FARMERS

Name of interviewer: Country:

Code of interviewee: District Village:

Date of Interview:

1. FARMERS' DEMOGRAPHIC CHARACTERISTICS**1.1 PERSONAL CHARACTERISTICS****1.1.1 Gender**

- a. Male
- b. Female

1.1.2 How old are you?

- a. 18-35
- b. 36-45
- c. 46-65
- d. 66 and above

1.1.3 What is your marital status?

- a. Single
- b. Married
- c. Divorced
- d. Widowed

1.1.4 Do you have formal education?

a. Yes

b. No

If “Yes”, what is your education level?

a. Primary education

b. Secondary education

c. College/ University

1.2 SITUATIONAL CHARACTERISTICS

1.2.1 Are you growing cassava?

(a) Yes

(b) No

1.2.2 If Yes in question 1.2.1 above, what breeds of cassava are you growing ?

(a) Nyamkugilo

(b) Kiroba

(c) Cosmas

(d) Others (specify).....

.....

Why?

1.2.3 What number of acres are you owning ?

(a) 1-5

(b) 6-20

(c) more than 20

1.2.7 What is your monthly income ?

- (a) Less than 50,000 Tshs
- (b) 50,000 Tshs-100,000 Tsh
- (c) Others (specify)

2.POTENTIAL MOTIVATIONAL FACTORS THAT MAY IMPACT PARTICIPATION IN FARMERS FIELD SCHOOL (FFS) TRAINING

2.1 What made you decided to join the Farmers Field School (FFS) training?

- a. Someone convinced me to join
- b. I expected to gain knowledge from participating
- c. Another (mention).....
.....

2.2 What skills did you hope to gain from participating in the FFS training? Check all that apply.

- a. Land preparation
- b. The use of improved varieties
- c. Diseases prevention and control
- d. Proper spacing
- e. Land management
- f. Market search
- g. Value addition

2.3 What benefits did you get from participating in the FFS training?

- a. Building participatory relationship with other farmers
- b. Gain knowledge on crop/livestock production
- c. Increased production

d. Allowance provided during training

e. Others, (List)

.....

3. FACTORS THAT MAY AFFECT FFS TRAINING

3.1 Explain how the group you belong was formed.

a. The group was already existed

b. Convinced

3.2 Was subject matter taught in the FFS training a group priority?

a. Yes

b. No

3.3 How many times did you receive extension advice/ service per month?

a. Everyday

b. Once

c. twice

d. More than twice

3.4 Did it happen sometimes the facilitator failed to show up for facilitation of the group activities?

a. Yes

b. No

c. Not sure

If “Yes”, mention how many times

3.9 What is your opinion of the subject mastery on the part of the facilitator?

- a. Facilitator was clearly understood
- b. Facilitator was somehow understood
- c. Facilitator was not understood at all

4. THE IMPACT OF FFS TRAINING TO FARMERS

4.1 Are you implementing what you have learned from the FFS training?

- a. Yes
- b. No

If “Yes”, check all the skills areas you are implementing:

- a. Land preparation
- b. The use of improved varieties
- c. Diseases prevention and control
- d. Proper spacing
- e. Land management
- f. Market search
- g. Value addition

If No, please explain why?.....

4.2. Did you notice any change from participating in FFS training?

- a. Yes
- b. No

If yes, tick all that apply

- a. Increased productivity

- b. Knowledge increase
- c. Market information network increased
- d. Increased relationship with members and other stakeholders
- e. Other(mention)

4.3. Are there Non-FFS members who come to seek advice from you?

- a. Yes
- b. No

If “Yes”, how many per year?

How many followed the advice you offered?.....

APPENDIX E: SWAHILI QUESTIONNAIRE (DODOSO LA MKULIMA)

Jina la mdodosaji:Nchi:.....Wilaya:

Nambari ya mkulima: KataKijiji:

Tarehe ya udodosaji:

1.1HALI YA MKULIMA

1.1.1 Jinsi

a. Mwanaume

b. Mwanamke

1.1.2. Una umri wa miaka mingapi?

a.18-35

b. 36-45

c. 46-65

d. 66 na kuendelea

1.1.3. Hali ya ndoa

a. Hajaoa/hajaolewa

b. Ameoa/ameolewa

c. Ameachwa/ameachika

d. Ametengana

1.1.4. Una elimu rasmi?

a. Ndiyo

b. Hapana

Kama “Ndiyo” una elimu kiwango gani?

a. Elimu ya msingi

b. Elimu ya sekondari

c. Chuo/chuo kikuu

1.2 HALI YA UCHUMI WA MKULIMA

1.2.1 Unalima mhogo?

(a) Ndiyo

(b) Hapana

1.2.2 Kama ndiyo, unalima aina gani ya mhogo?

(a) Nyamkugilo

(b) Kiroba

(c) Cosmas

(d) Nyingine (taja).....

Kwanini?

1.2.3 Unalima mhogo kwenye eneo lenye ukubwa wa ekari ngapi ?

(a) Chini ya 2

(b) 2-5

(c) zaidi ya 5

1.2.4 Unauza wapi mazao yako (mhogo na unga)

(a) Sokoni

(b) Nyumbani

1.2.5 Nini kipato chako kwa mwezi ?

(a) Chini ya 50,000 Tshs

(b) 50,000 Tshs-100,000 Tsh

(c) Nyingine (taja)

2. MOTISHA ZINAZOWEZA KUONGEZA USHIRIKI WA WAKULIMA

KWENYE MAFUNZO YA SHAMBA DARASA

2.1 Kitu gani kimekufanya uamue kujiunga na mafunzo ya shamba darasa?

- a. Kuna mtu alinihawishi
- b. Nilitarajia kupata maarifa kutokana na kushiriki kwangu
- c. Sababu nyingine (taja)
-

2.2 Ni ujuzi gani ulitumaini kuupata kutokana na ushiriki wako katika mafunzo ya shamba darasa?

- h. Uandaaji wa shamba
- i. Matumizi ya mbegu bora
- j. Kukinga na kutibu magonjwa
- k. Kupanda kwa nafasi
- l. Matumizi bora ya ardhi
- m. Utafutaji wa masoko
- n. Uongezaji wa thamani ya mazao

2.3 Kuna faida gani zitokanazo na kushiriki mafunzo ya shamba darasa?

- a. Kujenga mahusiano ya ushirikiano na wakulima wengine
- b. Kuongeza ujuzi wa kuzalisha mazao
- c. Kuongeza uzalishaji
- e. Nyingine, (Taja)
-

3. SABABU ZINAZOWEZA KUATHIRI MAFUNZO YA SHAMBA DARASA

3.1 Elezea kundi lenu liliundwaje.

- a. Kundi lilikuwepo kabla ya kuanza shamba darasa
- b. Tulishawishiwa kuanzisha

3.2 Je mada kuu mliyofundishwa kwenye mafunzo ilikuwa chaguo la kundi?

- a. Ndiyo
- b. Hapana

3.3 Umekuwa ukipata huduma ya ugani mara ngapi kwa mwezi?

- a. Mara moja
- b. Mara Mbili
- c. Sipati kabisa

4. FAIDA ZA SHAMBA DARASA KWA MKULIMA

4.1. Unatekeleza yale mliyojifunza kwenye mafunzo ya shamba darasa?

- a. Ndiyo
- b. Hapana

Kama “Ndiyo”, weka alama ya vema panapohusika.

- d. Uandaaji wa shamba
- e. Matumizi ya mbegu bora
- f. Kuzuia na kutibu magonjwa ya mimea
- g. Kupanda kwa nafasi
- h. Matumizi bora ya ardhi

- i. Utafutaji wa masoko
- j. Uongzaji wa thamani ya mazao

Kama hapana, eleza ni kwa sababu gani?.....

.....

.....

4.2. Umeona mabadiliko yeyote yatokanayo na kushiriki mafunzo ya shamba darasa?

a. Ndiyo

b. Hapana

Kama “Ndiyo” weka alama ya vyema panapohusika

- f. Uzalishaji umeongezeka
- g. Ujuzi umeongezeka
- h. Taarifa za masoko zimeongezeka
- i. Mausiano na wakulima wengine na washika dau yameongezeka
- j. Nyinginezo(Taja)
-

4.3 Kuna wakulima ambao siyo wanakikundi wa shambadarasa wanakufata kwa ajili ya ushauri?

a. Ndiyo

b. Hapana

Kama “Ndiyo” ni wangapi kwa mwaka mzima?

Je wanafuata ushauri uliowapatia?