Performance of Farmers Training Centers in South Wollo Zone: with Special Reference to Kalu Woreda, Amhara Regional State

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A THESIS

Submitted to Indira Gandhi National University, in Partial fulfillment of the Requirements for the Degree of Master of Arts in Rural Development

Addis Ababa

July, 2013

Declaration

I, the undersigned, declared that this thesis is my original work, has not been presented for any degree, in any university, and that all sources of materials used for the thesis have been duly acknowledged.

Name_____

Signature_____

Date_____

Certification

This is to certify that the Thesis entitled "Performance of Farmers Training Centers in South Wollo Zone: with Special Reference to Kalu Woreda, Amhara Regional State" Submitted to Indira Gandhi National Open University (IGNOU) is an original research carried out by Seyoum Esrael Abebe, under my supervision and continuous advice. I approve that it is accepted as fulfilling the thesis requirement.

Name of Advisor: Mengistu Hulluka (PhD)

Signature _____

Date_____

ACKNOWLEDGEMENT

First and foremost let me praise and honor the almighty God for the opportunity and capacity given to me to realize my aspiration.

Several individuals and organizations deserve acknowledgement for their contributions to the study. My foremost appreciation and thanks go to my major advisor, Dr. Mengistu Hulluka for his close supervision and professional advice and encouragement during the research work. My heart-felt thanks also go to Dr Mulugeta Taye, for his professional advice throughout the course of the research work.

I would also like to carry my gratitude to Organizations, FARM-Africa, Ethiopia and The Development Fund/DF / Norway for assisting me with financial support for tuition fee. I am very grateful to Mr. Jonathan Napier and Mr Ayele Gebremariam for their dedicated support on behalf of the FARM-Africa and The DF- Norway respectively.

I am indebted to Abebaye Ayele, Yosef Assefa, Melaku Gorfu, Dr. Zenebe Admassu, Kemelew Muhie, Amsalu Beyene, Tsehaye Kahsay, Aydahis Afkea,Yirga Tessema,Abraha W/Gebriel, Talema Ayalew, Yirga Tessema, Martha Mengesha, Messele Assefa, Mohammed Hussein, Bereket Akele, Mesfin Reda, Kemal Ahmed, Bisrat Gesesse,Etsegenet Teshome, and Beshir Yimam for their invaluable comments, encouragement, and advice during the course of my study.

My special recognition is given to my Father Esrael Abebe, my wife, W/ro Tsige Addise, her parents and my son Nahusenay for their invaluable encouragement throughout the study period.

I would like to thank all the staff of Kalu Woreda Agriculture and Rural Development Office for their irreplaceable love and constant support in all that I pursue. My special gratitude and deepest thanks also goes to respondent farmers for their non refusals of questions and all participants- peasant association executives, managers, development extension workers, supervisors, Woreda experts, and others for their respect and collaboration during data collection. I haven't mentioned others since they are many to be presented here but this is not to mean that their support is not significant compared to the once mentioned above, so thank you all. I love you for helping me to make it up.

Dedication

I dedicate this thesis to my family, for standing by me with affection and love throughout.

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ABBREVIATIONS /ACRONYMS

ADLI	Agricultural Development Led-Industrialization
AFNR	Afar National Regional State
AMAREW	Amhara Micro-Enterprise Development, Agricultural Research, Extension, and Watershed Management
ANRS	Amhara National Regional State
ATVET	Agricultural Technical Vocation and Educational Training
CSTCs	Community Skill Training Centers
DAs	Development Agents
EEA	Ethiopian Economic Association
EPRDF	Ethiopian People Revolutionary Democratic Front
FAL	Functional Adult Literacy
FAO-UN	Food & Agriculture Organization of the United Nation
FGD	Focused Groups Discussion
FMPTC	Farmers Multi-purpose Training Center
FTC	Farmers Training Center
GAO	Government Accountability Office (United States)
GDP	Gross Domestic Production
HHs	Households
ICAR	Imperial Council of Agricultural Research
ICT	Information Communication Technology
IFPRI	International Food Policy Research Institute
IFRC	International Federation of Red Cross
KII	Key Informants Interview
MoARD	Ministry of Agriculture and Rural Development
NFABLP	Non-Formal Adult Basic Learning Program
NFAE	Non-Formal Adult Education
NGOs	Non-Government Organizations
OoWARD	Office of Woreda Agriculture and Rural Development
OoZARD	Office of Zonal Agriculture and Rural Development
PADETES	Participatory Demonstration Extension Training System
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty

RCBP	Rural Capacity Building Project
SMSs	Subject Matter Specialists
SNNPR	South Nation Nationalities People Region
SSA	Sub Sahara Africa
SWOT	Strength, Weakness, Opportunity, and Threats
T&V	Training and Visit
TNA	Training Needs Assessment
TVET	Technical and Vocational Education Training
UNFPA	United Nations Population Fund

ABSTRACT

One of the major obstacles to the rapid development of the Agricultural sector in Ethiopia is the scarcity of skilled and experienced labor. Realizing the importance of educating and training the rural community, the government has formulated rural development policies and strategies. Currently, Farmers Training Centres are designed to provide services of extension, trainings, demonstration, information, advice, etc at grassroots level. However, the operational performance of FTCs and the constraints that hamper them in implementing their mandatory roles are not assessed through empirical studies to take proper action.

The objective of this study was to assess the operational performance of FTCs in South Wollo Zone with Special Reference to Kalu Woreda, Amhara National Regional State. A multi-stage sampling was used to select sample FTCs and respondent households. Overall, 100 sample households were selected randomly from eight FTCs. The method of data collection employed includes interview schedule, self-administered questionnaire, focus group discussions and personal observation. Quantitative data were analyzed by using descriptive statistics such as cross tabulation, percentage, frequency and mean. Qualitative data were analyzed through interpretation and conceptual generalization. Moreover, SWOT analysis was done to summarize the results of the research objectives.

The finding of the study indicated that the operational performances of all FTCs in the Woreda were found weak. The major constraints identified were inadequate human power with low level of knowledge and skill, absence of residences for DAs, absence of organizational support and commitment, low-level of awareness and participation of beneficiaries, non- extension workload, poor communication and weak linkages between relevant institutions, lack of training materials.

Moreover, absence of training needs assessment, lack of financial resource and demonstration field for practical trainings were the main findings of the research.

Therefore, the Woreda should support and strengthen the operational performance of FTCs for future improvement.

CHAPTER ONE: INTRODUCTION

1.1. Background

Agriculture is the backbone of the Ethiopian economy. It is responsible for approximately 50 percent of the Gross Domestic Product, 90 percent of foreign exchange earnings, and 85 percent of the livelihoods of the population (Berhane, et. al., 2005). However, the sector is driven by subsistence strategies of smallholder farmers and their families (ibid).

Regarding the low productivity of the agricultural sector, Belay (2008) also noted that one of the major obstacles to the rapid development of the agricultural sector in Ethiopia is the scarcity of skilled and experienced labour.

The on-going agricultural development led industrialization policy (ADLI) has been instrumental in launching the national agricultural initiative, known as Participatory Demonstration and Training Extension System (PADETES) with the aim of attaining self-sufficiency in food production. PADETES is based on demonstrating improved technologies and improved agricultural practices through training (learning by doing) taking the farmers indigenous knowledge into consideration. For this reason, the country has promoted Farmers training centers (FTCs) to be established at each Kebele as a more effective approach to extend science-based knowledge and practices to farmers.

PADETES has two types of training programs in every Farmers Training Center in the country. They are modular training and package training. PADETES has also incorporated participation as one of its key elements. The issue of participation is well stated and addressed in the strategy and development policy document of the country.

Within the specific study area, Kalu Woreda, 25 FTCs were constructed and supported by rural capacity building project (RCBP) with the aim to serve as centers of extension service and information dissemination, conduct modular training to farmers from three up to six months, gearing up to agricultural transformation through the empowerment of farmers.

1.2. Statement of the Problem

According to Berhanu et, al., (2006) in order to bring realistic transformation in agricultural extension service, farmers must be trained to improve their knowledge, skill and attitude towards deciding in their own affairs, access to information, exposure to improved farming and living practices.

The main objectives of the FTCs, as mentioned by Berhanu et, al. (2006) are to:

- give specialized (modular) training on modern farming techniques;
- provide agricultural extension services easily;
- provide information and advisory services on market, entrepreneurship, ecological, demographical, social etc.; and
- serve as permanent exhibition center.

To complement government efforts and to contribute to the transformation of FTCs into vibrant ‘knowledge and innovation centers ‘the Rural Capacity Building Project (RCBP) has been a key initiative working to strengthen the Ethiopian extension system. However, Kefyalew (2006) in his report expressed the need for further study of FTCs, in that, thousands of FTCs were constructed and even the time in which they were supposed to start the intended activity had been delayed.

Despite the above-mentioned statements, there is not any research undertaken in the study area on how the extension programme is performing. Similarly, the performance of FTCs in relation to the progress being made towards the desired goals and the problem areas were not assessed in order to take appropriate measure for future improvement.

In the study Woreda, in the past few years, efforts were exerted by the government and non-governmental organizations to implement the innovative policy instrument. One of the efforts was building FTCs and equips them with basic facilities to offer modular training. Sixteen FTCs were constructed in sixteen Kebeles to date, and fifteen of the FTCs were equipped with furniture and materials, however, only five FTCs have been offering modular training since 2007.

Therefore, this assessment is designed to analyze and identify gaps in the current and proposed extension services in relation to responsibilities and functions of farmers training centers of the study area.

1.3. Objective of the Study

The general objective of the study was to assess the operational performance of FTCs in providing extension education services in Kalu Woreda.

The specific objectives of the study were to:

- assess the current operational performance of FTCs;
- investigate the perception and opinion of farmers towards the service delivery of FTCs based upon the extension delivery system and modular training;
- identify the opportunities and constraints for effective functioning of FTCs in the study area; and

- generate solutions towards resolving constraints in the operation of FTCs for the improvement in its future performance.

1.4. Research Questions

The study sought to answer the following research questions:-

- How are FTCs currently operating and delivering extension services?
- What opinions and attitudes do farmers hold towards the extension delivery system provided by the FTCs?
- What are the opportunities and constraints of FTCs towards the provision of effective services?
- What are the suggested solutions to the constraints of the FTCs?

1.5. Significance of the Study

Assessing the organizational issues and constraints related to farmers training centers, has significant contribution in pinpointing areas that need attention for future improvement. However, so far, no comprehensive research has been done in assessing the overall performance of farmers training centers in the area.

Therefore, this study provides valuable information to Bureau of agricultural Development and RCBP to help enhance the operational performance of FTCs. It also helps extension personnel to formulate strategies in organizing suitable extension activities based on entrepreneurial behavior, knowledge, and adoption level of resource poor farmers with regard to improved farm management practices.

1.6. Scope of the Study

The study was mainly confined to examining the operational performance of FTCs and was delimited to Kalu Woreda, Amhara Regional State of South Wollo Zone. Because of the fact that Kalu Woreda is the Pilot Learning Site of RCBP, the study has been

conducted at the area. Besides, the study also assesses the relevance and effectiveness of FTC-based modular training.

1.7. Limitations of the Study

This study mostly relied on farmers' response, perception and memories for the results presented in the findings and because of the fact that there is no similar kind of study undertaken in the area, it is impossible to validate the findings with some other findings. Besides, the official information at district level is also very sketchy as there is problem of database management and high rate of staff turnover that makes the access for important data very difficult and time taking. Moreover, the study has its own limitation of time and resources as an individual student researcher.

CHAPTER TWO: LITERATURE REVIEW

This chapter presents reviews of literature relevant to the themes of the study. The chapter has seven sections. The first section discusses theoretical concepts and empirical studies related to farmers training centers and extension approaches. The second section deals with the status of farmers training centers based on studies from literatures. The third section discusses the contextual factors that influence the effectiveness of FTC based extension education system including review of institutional aspects, organizational coordination and linkage mechanisms. The fourth section deals with FTC-based organization and implementation of modular training and the fifth, sixth and seventh section presents assessment, performance measurement and the conceptual framework of the study, respectively.

2.1. Farmers Training and Extension in Ethiopia

2.1.1. Background

In Ethiopia, agriculture related trainings started in the early 1940s, following the establishment of Agricultural and Technical Schools at Ambo and Jimma (Beintema and Solomon, 2003). During the socialist regime in Ethiopia, Functional Adult Learning (FAL) programs were initiated in 1974 through Community Skills Training Centers (CSTC) though the need to provide focal points for adult education programs to meet skill-training needs had been recognized much earlier. The community-training program in Ethiopia was also initiated in 1975/76 (Zelleke, 2000).

The Education sector review of 1971/72 came up with proposals for what was known as "Community practices." Later on, these plans were converted into what is known as the Community Skills Training Centers Program (CSTC), which was designed to reach rural

people all over the country. By 1977, about 408 CSTCs were established. Out of these, only 121 were active (Zelleke, 2000).

The current government adopted Agricultural Development Led Industrialization Strategy (ADLI) in 1994. Within the framework of ADLI, a new extension approach, PADETES was adopted in 1995. PADETES aimed at, as stated by Berhanu, et, al., (2006), increasing productivity and production of smallholders, empowering farmers to be active participants in the development process, increasing food self-sufficiency, increasing the supply of raw materials for domestic use and export, enhancing the rehabilitation and conservation of natural resource base, and encouraging farmer organizations.

2.1.2. Agricultural Extension in Ethiopia

Agricultural extension work in Ethiopia began in 1931 with the establishment of the Ambo Agricultural School, which is one of the oldest institutions and the first agricultural high school offering general education with major emphasis on agriculture. Apart from training students and demonstrating the potential effects of improved varieties and agricultural practices to the surrounding farmers, the school did not do extension work in the real sense of the term that we understand today. It was with the creation of the Ministry of Agriculture in 1943 that the country witnessed the commencement of limited extension activities in different areas (Belay, 2002).

A review of extension activities during the last fifty years reveals that a range of extension approaches has been used. The approaches tended to be different with each successive political regime. However, it was transferred to Ministry of Agriculture in 1963 soon after it has started in 1954 under the Alemaya College of Agriculture along with research and education. Under the Ministry it passed through various programs like comprehensive package programs, Minimum package project (MPP), Peasant Agriculture

Development Project (PADEP) and in 1993 Participatory Demonstration and Training Extension System (PADETES) which was adopted to be the national agricultural extension system in Ethiopia in response to evaluation of previous extension strategies in the country (Habtemariam, 2007).

According to the new agricultural extension system, execution of extension program is the sole responsibility of the Regional Bureaus of Agriculture and Rural Development (RBoARD) while the Federal Ministry of Agriculture and Rural Development (MoARD) has the mandate of formulating agriculture related policies, coordinating inter-regional development programs and/or projects, providing technical advise and training services to increase the technical competence of extension staff members of Regional Agricultural Bureaus. Thus, a decentralized extension system is envisaged for the realization of participation at grass-root levels (Habtemariam, 2007). Decentralizing extensions services helps to address many problems of extension by facilitating greater inter action with clients and improving the focus on local needs and opportunities (FAO, 2005).

To bring realistic transformation in agricultural extension service, farmers have to be trained to improve their knowledge, skill and attitude towards deciding in their own affairs, access to information, exposure to improved farming and living practices. Hence, with the implementation of the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), the national agricultural extension strategy has recently made another shift from the previous farm visits and on-farm demonstration of technologies under PADETES to the Farmer Training Center (FTC) approach.

2.1.3. Farmers Training Centers in Ethiopia

The first Farmers multi-purpose training center (FMPTC) of the country was established 1980 at Agarfa, Bale in Oromiya Region. Its main objective was transfer of technology

to the rural population to raise the quality of agricultural production and living condition of the rural community (Zelleke, 2000).

The current government opted for having FTCs in every Kebele, rather than having limited residential FTCs as it was in the past. Ultimately, the FTCs could develop into multi-purpose centers providing a range of services and information beyond agriculture. Moreover, the FTC program implies that providing a community focal point and expanding access to education for farmers will accelerate the commercialization of agriculture and thereby rural transformation.

Vince Ashworth (2005) also mentioned the importance of FTCs for development, officials cite the absence of a commercial/business approach by the majority of Ethiopian farmers in almost all policy and strategy papers and almost universally and extension workers at all levels, as perhaps the main constraint to rural transformation. According to officials, this is due mainly to farmer's lack of education including an understanding of business principles and the benefits of using 'modern' technology and farming methods.

2.2. The Current Operational Performance of FTCs in Ethiopia

Berhanu et al., (2006) had indicated that the agricultural extension service at the FTCs was expected to play an active role in linking farmers with other institutional support services such as input supply, credit, cooperative promotion, and agricultural produce marketing. According to MoARD, (2008) 5,493 Farmers Training Centers have been completed and are ready to commence services. During the plan period, it is envisaged to construct a further 3,000 FTCs in addition to the 15,000 planned, bringing the total number to 18,000 by 2010 indicating that FTCs will be equipped with all necessary teaching materials, workshop implements, and computers connected with the Woreda-net program.

MoARD (2010) indicated that the agricultural extension system is a major element of the agricultural and rural development strategy that appropriate technologies need to be disseminated through a strong agricultural research and extension system. The extension system has federal and regional dimensions. Core institutions are the Agricultural Technical and Vocational Education and Training (ATVET) centers and the Farmer Training Centers (FTCs).

Furthermore MoARD, (2010) revealed that at present, the extension system deploys three DAs at each kebele, with responsibility for crop production, livestock production, and natural resource management. Furthermore, as part of the system, Research-Extension-Farmer Linkage Councils have been established to oversee technology generation, packaging, and dissemination. These Councils are structured from Woreda up to the federal level (ibid).

However, studies pointed out that the significant expansion of DA numbers together with the number of FTCs has huge implications for increased operating costs including in-service training and backup support from Woreda based staff. A crucial constraint of the existing extension service is the shortage of operational funds. Further, quite apart from the building cost, the need to ensure the FTCs are adequately equipped and maintained in order to carry out their intended task, will require substantial capital, the availability of which is somewhat problematical (Ashworth, 2005; Berhanu et al., 2006).

2.3. Contextual Factors influencing the effectiveness of FTC based extension system

The basic philosophy of extension education is directed towards changing the outlook of man by educating him. Its primary aim is, therefore, to transform people by bringing about desired changes in their knowledge, attitudes and skills.

According to Venkatasubramanian, V. (2010) ,extension education is a process and it is participatory in its approach and the sequence of steps involved in the process are (i) situation analysis (ii) formulation of objectives (iii) deciding the content and teaching methods (iv) outcome evaluation and impact analysis and (v) feedback and formulation of corrective action.

The effectiveness of the extension system in fostering capacity building, technological adoption and ultimately improved agricultural outcomes depends on key factors relating to the advisory methods used, the governance, capacity and management structures of the extension system, as well as underlying contextual factors such as the policy environment, market access, characteristics of beneficiary communities and weather conditions.

As noted in Birner et al. (2006), the reasons for effective service delivery will be diverse, including the appropriateness of the advisory methods, the capacity and numbers of extension workers , and the management and governance structures of the organizations delivering the services. And as highlighted by participatory models in particular, effectiveness may also influenced by the degree of feedback and the mechanisms of delivery of information from farmers to the research and extension system, and thus the role of farmers in formulating demand and their ability to exercise voice. This may depend in turn on the degree of decentralization, the ratio of extension workers to farmers, a responsive management approach, and indeed the use of participatory advisory methods (ibid).

Furthermore, Venkatasubramanian, V. (2010) noted that, an effective learning situation comprises of all the essential elements such as teacher, learner, subject matter teaching materials and physical facilities. Therefore, an effective learning situation is a system

with structurally and functionally interacting sub-systems or elements. The learning situation must be effective in enabling the learners to acquire the knowledge, improve or learn skills, develop positive attitudes finally leading them to take appropriate decisions (ibid).

Therefore, for Institutional Effectiveness of FTCs in teaching-learning process the following are the essential requirements:

2.3.1. Organizational capabilities and communication within the service

Communication in extension organization takes place within the organization and outside the organization among different actors in order to achieve organizational goals. Formal communication focuses on job related communication required by the organization, and follows the accepted hierarchical structure, while informal communication focuses on satisfying group members' social needs (Rogers and Rogers, 2004 as cited in Samson, 2007).

Extension organizations in developing countries face the major problems of professional incompetence and lack of motivation among their employees. Further, many of the agricultural extension departments of these countries do not have a well-defined system of human resource management. Proper planning and management of human resources within extension organizations is essential to increase the capabilities, motivation, and overall effectiveness of extension personnel (Vijayaragavan and singh, 1997 as cited in Swanson, 1997).

2.3.2. Leadership capabilities, commitment and community participation

Leadership is the process of influencing people to direct their efforts towards the attainment of particular goal(s). The success of a leader depends upon his ability to work with people and to get things done through people. This involves the use of effective

communication skills. Lack of commitment by senior government officials has been cited as a factor adversely affecting implementation and funding support in nearly half of World bank-assisted freestanding extension projects (Purcell and Anderson, 1997 as cited in Swanson, 1997).

Farmers' participation on various areas of human resource development is a crucial tool to bring voluntary behavioral change (change in practice, knowledge, skill, and attitude. However, literature review indicated that majority of the farmers in rural area were have not participated. Belay (2002) points out that farmer make a very marginal contribution in designing and formulating extension activities. Furthermore, Belay (2003) concluded that extension programs were formulated without considering farmers' needs and capabilities, and called for farmers' participation in the planning and execution of extension programs.

As it is impossible to expect success from rural development interventions formulated without the active participation of the target population, farmers should be empowered and encouraged to participate in the planning and execution of extension programs (Belay, 2002). Regarding to program ownership, PADETES maintain that the people themselves are the owners of their development affairs. By implication, this means that the extension agent is accountable to the community not to the extension agency (Habtemariam, 2007).

2.3.3. Quality and quantity of extension agents/trainers

By the nature of the duty and work that an extension system carries out, its worth to society is largely reflected by the quality and number of the technical and professional staff in the organization. Inadequate numbers and qualifications of staff remain a difficult problem for public sector extension organizations. Education levels may be quite low,

especially for farmer contact staff. The ability to attract and retain qualified extension staff is limited in most countries by civil service salary scales established by other agencies of government (Warren, 1997 as cited in Swanson, 1997).

The main actors in the teaching-learning process at FTCs are the extension agent's. Supporting the view, Roling (1988) said that "working through people, as an extension communicator requires professional skill and insight, which must be underpinned with knowledge". White (1986) stated, "We find many common deficiencies in knowledge and ability on the part of extension agents."

2.3.4. Adequate training for extension staff

The extension worker (DA) is the only extension worker who teaches production recommendations to farmers. The responsibility of all other extension staff is ultimately to make the DAs more effective in his/her work. As agriculture becomes more specialized and complex, there is a continual need for more highly trained and specialized DAs.

According to Bahal (2004), in some low-income countries the available supply of extension workers with scientific training in agriculture is very limited. With programs to expand extension systems rapidly, administrators have devised ways to build extension systems that can utilize the relatively untrained and unskilled field worker'(ibid).

2.3.5. Work Load of Extension Agents

The efficiency of extension agents decline when they have to look after among educational & non-educational activities. The task of teaching farmers suitable technical practices and convincing farmers to try them is not easy. It is clear from the literature that non-educational tasks are diverting considerably resources from extensions primarily role. Re allocating these resources to full time educational responsibilities would increase extensions effectiveness in transforming traditional agriculture (Bahal, 2004).

According to Habtemariam (2007), PADETES suffered a great deal in this respect i.e. regulatory and extension processes were separated at the federal and regional levels but the regulatory wing did not have an organ to implement regulatory activities at the DC level, which forced Woreda offices to perform both extension and regulatory activities by the same DA. Under a favorable work environment, the extension worker is expected to work as a teacher, facilitator, organizer, coordinator, and catalyst and communication specialists.

2.3.6. Incentives and motivation to extension agents

Important aspects of human resource management, which needs special attention in extension organizations in the development of reward system, which will attract, retain and motivate extension personnel. The bureaucratic structure of extension administration, lack of rewards and incentives, poor facilities, poor promotional avenues, and the low esteem given to extension are the major causes of poor motivation and morale (Vijagaragavan and Singh, 1997 as cited in Swanson, 1997). Among many of the government departments, the agricultural department and the extension service have a low public esteem and poor pay structure (Ibid). Incentive and motivation to extension personnel plays a great role in the efficiency and effectiveness of extension services (Bahal, 2004).

2.3.7. Selecting appropriate teaching materials and training methods

Teaching materials are teaching aids used during training to facilitate effective communication and learning. They are particularly useful in the agricultural technology transfer process, where they serve as essential tools in agricultural extension for training farmers. Materials support the talking, support the seeing and support the doing involved.

The extension-teaching methods are the tools and techniques used to create situations in which communication can take place between the rural people and the extension workers. A training program has a better chance of success when its training methods are carefully selected. Selecting an appropriate training method is perhaps the most important step in training activity once the training contents are identified. Four major factors are considered when selecting a training method: the learning objective, the content, the trainees and the practical requirements (Abdul Halim and Md. Mozahar Ali, 1997 as cited in Swanson, 1997).

2.3.8. Financial resources

Adequate and availability of funds is important for the smooth running of agricultural extension services. Funds are required for training of Agricultural extension agents and farmers, to enhance communication, facilitate supervision, and supply of implements and equipments. Where allocation of funds for extension services has been minimal, effectiveness of FTCs and extension system as whole has been poor.

2.3.9. National agricultural policies and strategies

National policies of agricultural research and extension play an important role in the development process. (Dutia, 1990 as cited in Swanson, 1990) "achieving the long run educational and development goals of extension requires continuity in political and financial support and the institutionalization of the extension function. Extension can perform its role in development only when a favorable environment for its operation is created".

By realizing the contribution of agricultural sector for the country, the government has adopted agricultural Development Led Industrialization (ADLI), which is planned to play a greater role in the improvement of small holders and industrialization based on

utilization of domestic raw materials with intensive labor. It is clear that the extension intervention emanates from policy objectives, which targeted the improvement of the life of the rural people by increasing their produce and income through use of available resources but with added inputs like training and technological packages. As a result, the Farmers training centers become real in the long evolution of the country's extension system.

The training at the FTC will focus on two major categories: modular training and farmers training on agricultural extension packages.

a) Extension package training: Training on agricultural extension package is short-term training provided to all farmers for mass mobilization in the area of agricultural extension package programs, which includes minimum and household packages.

b) Modular training: - modular training is specialized training for farmers starting from grade four working in agriculture who owns farm land in which all agricultural extension activities will give due emphasis to gender integration. Thus an estimated 30% of the women in male headed households will also get access to training and extension services in the type of extension packages that will benefit them(MoARD, 2006).

2.3.10. Monitoring and evaluation

An important element in extension is proper follow-up based on well thought monitoring and evaluation system. Formulation of proper monitoring and evaluation system is essential to identify strengths, build on them, pinpoint weaknesses, and take corrective measures timely. Kebele-level extension unit and Woreda level experts conducts monitoring of modular training continuously to make sure that, the required actions and practices are preceding according to the plan.

Accordingly, the directive (MoARD, 2007) indicates that, evaluation is conducted after completion of each training course to determine the effectiveness of the training. Terminal evaluation is carried out both in classrooms and in the fields. Evaluation is done after developing criteria and skill test items. However, EEA/EEPRI (2006), noted that, PADETES failed formulate and implement appropriate monitoring, evaluation system, and the associated performance and success indicators to continuously assess if its activities were contributing towards achieving its stated objectives.

Monitoring and evaluation is a management tool that can contribute significantly to effective extension. Monitoring keeps track of extension activities and progress in the implementation of the extension system. Monitoring and evaluation is a tool that helps ensure the extension service operates efficiently, enables management to take the necessary corrective action regarding shortcomings in extension operations, and provides policy makers with appropriate information on which to base decisions. It can create an atmosphere of trust, honesty, and self-criticism upon which effective extension depends (Bernor and Baxter, 1984).

2.3.11. Organization and Management of FTCs

Vince Ashworth (2005) in his study of agricultural extension in Ethiopia mentioned that conceptually, the FTC program implies that providing a community focal point and expanding the access to education for farmers will accelerate the commercialization of agriculture and thereby rural transformation. Ultimately, the ownership and responsibility for the management and operation of the FTCs should be transferred to the respective kebele, which in turn subjected to the kebeles having the requisite financial and management skills.

According to FTC working guideline to fulfill the objectives for which the FTC stands and to help their beneficiaries achieve expected outcomes the centers organizational structure and management hierarchy should be short and clear (MoARD, 2005).

Some relevant points related to organization from the above-mentioned guide are summarized as follows:

Ministry of Agriculture and Rural Development is responsible for policy provision and the designing of initial curriculum guideline for the Extension training (MoARD, 2005). The RBoARD (Regional Bureau of Agriculture and Rural Development) is committed for giving various decisions on the FTC issues including where and how many of them should be build. This is in addition to its responsibilities of adapting the Federally designed curriculum guide to the regional training needs, the provision of on job training for DAs and the approval of financial and material inputs for the implementation of the training (MoARD, 2005).

The OoWARD (Office of Woreda Agricultural and Rural Development) allocates for FTCs, budget and regulates their activities. The FTCs are entitled to have their own internal management and needed to report to the WoARD. There are three DAs (Development Agents) assigned in every FTC and one of them will be appointed as a coordinator by OoWARD. FTC level extension unit consists of PA chairman, PA manager, 3 DAs, representatives of women, youth and other two model farmers and is responsible for planning and implementation of PA level development activities including management of FTCs functioning.

2.3.12. Coordination and Linkages Mechanisms

An integrated approach to research and extension attempts to link all system participants – researchers, extension workers, input suppliers, farmers and others – so that they are

jointly involved in the agricultural technology innovation process. An integrated research extension approach emphasizes the importance of interactive, mutual learning between formal and informal knowledge/technology systems and stresses linkages with farmers so that they actively participate in agricultural technology innovation efforts.

According to Salomon and Engel (1993), coordination (e.g. mutual adjustment of activities), or resource transfers (perhaps credit, salary payments or shared labor) are important for effective extension work. Habtemariam (2007) also noted that, proper definition of roles and establishing clear line of authority among government institutions are very important.

Agricultural research organizations are extension's closest institutional partners in technology generation and transfer. The way research is structured and organized, and the planning and management of research-extension linkages, can limit or enhance extension's effectiveness (FAO, 1998). These include lack of financial resources, acute shortages of well-trained scientists, lack of farmer feedback to ensure relevance of research results, lack of access to external sources of knowledge, inadequate research facilities and equipment, low staff morale, and inadequate operating budgets, staff incentives, and remuneration (FAO, 2005).

2.4. Organization and Implementation of Modular Training

Modular training has prepared curriculum running by Development Agents/DAs/ farmers presents in FTCs participating in selected training programs not less than 3 months both theoretical and in practical training. The main goal of the modular training is to enable farmers produce quality products and become competent in markets. This could be enhanced through skill-oriented farmers training on specific agricultural production methods for a period of six months (MoARD, 2007).

According to the directive of MoARD, (2007), the implementation of FTC-based modular training programme is organized in three broad areas of plant science, Animal science and natural resource management. Moreover, each task has training contents, duration, methods, aids, and evaluation procedures in which the training in each course consists of 80% practical and 20% theoretical sessions. Concerning the subject of training and the determination of time decisions should follow as per the agreement and need of trainees and trainers. This means that there must be a training need assessment.

Each FTC is to be staffed by three DAs (one each in the areas of crops, livestock, and natural resource management) and supported by a peripatetic DA covering three FTCs and trained in cooperatives management or a related field (Spielman et al. 2008). Each DA is expected to train 120 farmers per year in his/her field of specialization. He or she is also expected to give modular training to 60 farmers every six months in his/her field of specialization (MoARD, 2007). FTC -level extension unit conduct monitoring of modular training continuously and Woreda level experts to make sure that, the required actions and practices are proceeding according to the plan (ibid). Thus, Woreda level experts. team (SMSs) together with FTC-level extension unit continuously monitor during implementation and provide technical backstopping if the team encounters a difficulty it should be reported to higher levels for flexibility and modifications for better adaptation.

Researchers agree that the FTC should be the focal point for all the actors within the innovation system (Habtemariam 2007). However, the FTCs need monitoring and support. This is in addition to having a clear business or operational strategy and knowledgeable DAs who are capable of running them.

2.5. Assessment and Evaluation

Assessment is defined as data-gathering strategies, analyses, and reporting processes that provide information that can be used to determine whether intended outcomes are being achieved. Evaluation uses assessment information to support decisions on maintaining, changing, or discarding instructional or programmatic practices. (Amy Melichar and Michael P. McNeil, 2011). Assessment, in this study is the examination of what is happening in FTC based extension delivery system, what may occur in future or what might be needed in order to achieve desired objectives. The results from an assessment process should provide information that can be used to determine whether or not intended outcomes are being achieved and how the programs can be improved.

Program Performance Assessment: The United States General Accounting Office (GAO,1998),defines performance measurement as the ongoing monitoring and reporting of program accomplishments, particularly progress towards pre established goals. And noted that Performance measures may address the type or level of program activities conducted (process), the direct products and services delivered by a program (outputs), and/or the results of those products and services (outcomes).

Assessment is the systematic collection, review, and use of information about projects/programmes undertaken for the purpose of improving learning and implementation. "Assessment" is a broad term, and can include initial assessments, evaluations, reviews, etc. (IFRC.2011). Evaluation is an assessment that identifies, reflects upon and judges the worth of the effects of what has been done. An assessment is systematic and objective as possible, of an ongoing or completed project, programme or policy, its design, implementation and results. The aim is to determine the relevance and fulfillment of objectives, developmental efficiency, effectiveness, impact and sustainability (ibid).

Evaluation is undertaken selectively to answer specific questions to guide decision-makers and/or programme managers, and to provide information on whether underlying theories and assumptions used in programme development were valid, what worked and what did not work and why (UNFPA, 2004).

According to, Venkatasubramanian, V. (2010), evaluation when applied to the field of extension may be defined as a process of systematic appraisal by which we determine the value, worth or consequences of the extension programme/activity. Most of the evaluation study conducted in extension was of mostly comparison of production yield before and after the implementation of the programme. However, it must be understood that evaluation is not simply a measurement of achievements, which is usually done after a programme is executed (ibid).

2.6. Performance measurement

Performance: refers to implementation or efficiency, and measures actual against expected results, it is a proxy measure of the quality of management. According to Abernethy (1989), performance is represented by its measured levels of achievement in terms of one, or several, parameters that are chosen as indicators of the system's goals. Performance assessment enables verification of the degree to which targets and objectives are being realized. Performance measurement is a component of evaluation, but it is not a form of evaluation. Performance measure data depict the activities and objectives being accomplished by the program (process) and the characteristics of participants the program hopes to affect (outcome).

2.7. Conceptual Framework of the Study

The present study focuses on operational performance of FTCs especially the institutional and organizational dimensions of FTCs for effective functioning. To analyze these

processes there is a need to frame the research into major areas where the researcher needs to focus. Operational performance is the degree of fulfillment of specific standards necessary for FTCs to undertake the mandatory roles assigned to them as institution. Based on the MoARD FTC standard and reviews of the FTC based extension approaches, a conceptual model has been developed for the present study and depicted in Figure 1.

The framework displays that FTCs as an institution consists of physical resources (buildings with training rooms, residence and transportation facility for DAs, exhibition hall and enough demonstrations field where different agricultural technologies (plant, animal and soil conservation technologies) will demonstrated based on farmers their problems and training needs.

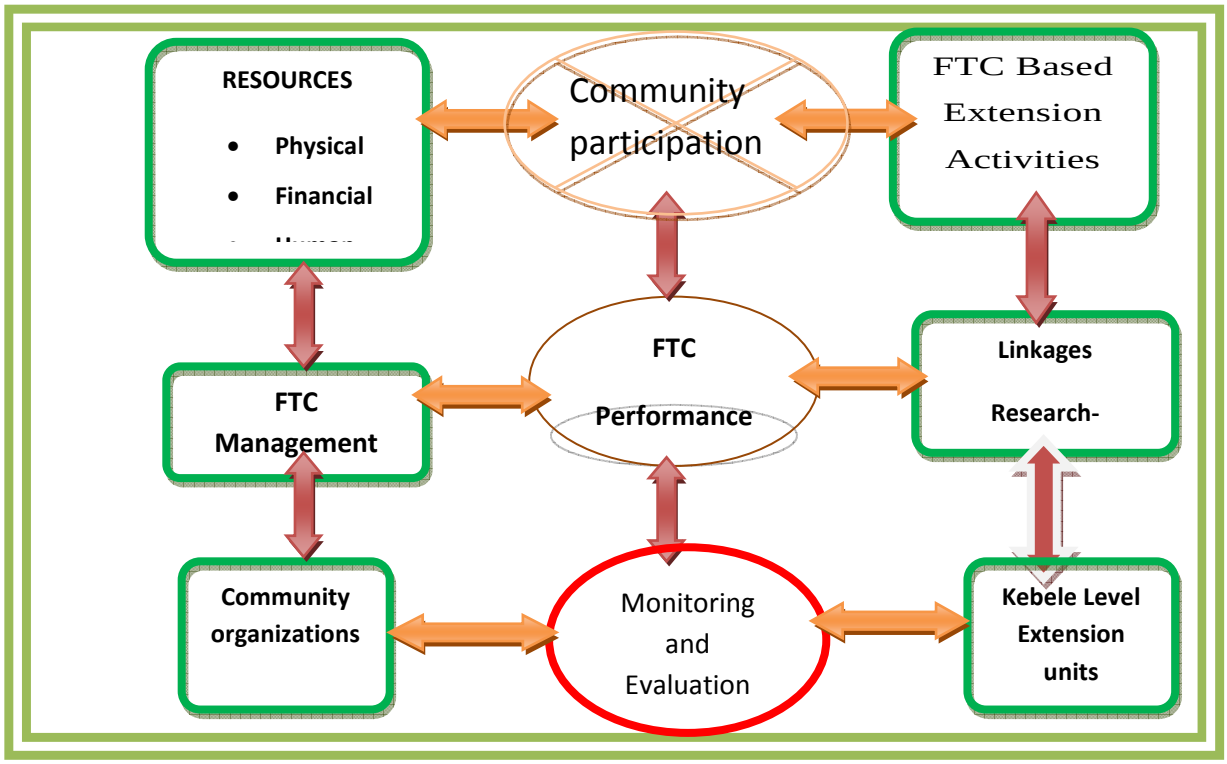

Figure 1: Conceptual framework for the study, 2011

Financial resources used to run practical demonstrations and day-to-day activities at FTC (live animals, technologies, communication etc-). The Human resources consists three DAs in different discipline assigned to run FTC based extension activities (training of

farmers based on their problems and training needs, as a center of market information and focal point of linkage at FTC) in addition to other regular extension services.

The community participation implies that FTC based extension system is based on participatory approach and actively involves the farmers and farming community at various levels, in their own agricultural development. Community participation as 'empowerment' also implies both the development of management skills in local people and the ability to make decisions, which affect their lives (participation as a transformational end).

The linkage component attempts to link all system participants – researchers, extension workers, input suppliers, farmers and others – so that they are jointly involved in the agricultural technology innovation process. It also emphasizes the importance of interactive, mutual learning between formal and informal knowledge/technology systems and stresses linkages with farmers so that they actively participate in agricultural technology innovation efforts. It also links rural people and organizations to external service providers, input and output markets and sources of innovation in order to create a functional innovation system where the demand side and the service supply are both well developed.

The FTC management indicates formal mandate given to FTC level management committee, task and performance management, financial and material resources management, rules and procedures to promote and assist the FTC institution to become more effective and viable. Kebele committee headed by the chairperson governs FTC resources.

The extension unit denotes that all farmers of the kebele are organized into small groups for the purpose of extension services. Each group has representatives who serve as the

contact farmers of the extension worker. The principle is to put the farmers of same interest together and carry out the activities on group basis. This has been very effective to bring the innovation to the groups, which in turn expand to its command area farmers. The limited manpower and other resources can be well utilized by means of group.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter describes the tools and techniques deployed for the study, including the study area description, sampling design and sampling technique, data sources and methods for data collection, variables used for the study and their measurement and data analysis.

3.1. Description of the Study Area

South Wollo Zone is one of the eleven zones of ANRS, bordering North Shoa in the East and East Gojjam in South and South Gondar in South West, North Wollo in the North, Oromia Zone of Amhara Region in the South East, Afar in the North East, with capital city Kombolcha, 375 km along Addis Ababa – Dessie main road. It has 20 rural and 4 town Woredas with 510 Kebele Administrations. The specific study area, Kalu Woreda is situated around the capital Kombolcha, that is, as well as, the capital of the Woreda, and 505 km from the region's capital, Bahir dar. The Woreda has 34 Kebele Administrations (KWARDO, 2009).

The total area of the study woreda is about 87,523 ha. The Woreda is bordered by Oromia Zone in the South and East, Argoba Woreda in the South East, Antsokia Woreda (North Shoa), Desie Zuria in the West, Worebabu in the North and Albuko Woreda in the South. Agro-ecologically, the woreda is classified as mid-altitude (Woynadega) (64%), lowland (kola) (17%) and highland (dega) (19%). The annual rainfall ranges from 800-1000 mm, more of bimodal in pattern and erratic in nature (ibid). The elevation ranges from 1378-2680 masl with temperature ranging from 20.5-360c.

The total population of the Woreda is estimated to be 197,034, and out of this, male 99,670 and the balance female. Vernacularly the majority of the population of the district is Amharic and the dominant religion is Islam (KWARDO, 2009).

Farmers in the Woreda practice mixed farming. Among the dominant crops grown in the Woreda, sorghum, maize and 'teff "are leading cereals for Meher and Wheat, Barley and Oats for Belg season. In addition, bean, lentil, and chickpea etc. grown in small quantities in the area. The average farmland holding is 0.69 ha. Most of agricultural output comes from fragmented peasant land holdings. Oxen serve as primary source of traction power and usually farmlands situated in the plains of Borkena valley are ploughed by using motor power. The plain areas use very large number of hired labor for weeding, harvesting, threshing and transporting and highlanders who come to seek jobs from the months of august to January would congest the urban and rural areas.

The farming system is mixed comprising crop and livestock although production and productivity is very low. The major types of livestock are cattle, goat and sheep, and some beast of burden numbering about 118,479, 58,764 and 27,720, respectively.

The study area is characterized by rugged topography; out of the total area 5% are plain, 23.5% hilly, 16% valley and mountainous, 55.5% undulated (rugged) in nature. Land use statistics data shows that 24,734 ha/Meher/ and 5,000ha /Belg/27,454 ha is cultivated, 27454 ha cultivable, 51614 ha forest and bushes, 3732 ha construction and 937 ha of the district grazing (ibid).

The main livelihood means is on–farm activities and few still depend on off-farm activities. Due to erratic rainfall, agriculture in general and crop production in particular could not meet the food demand of the family. The best alternative and widely used strategy these days is to send, especially, girls to the Middle Eastern countries by

scarifying all assets at hand for future gains. Large number of males also flocks to Djibouti, Saudi Arabia etc. for temporary or permanent work opportunities. Therefore, there are more emigrants from the country crossing AFRNS to adjacent countries than through Bole National Air Port legally. Some also remain in AFRNS engaged on contraband trade and other petty trading and women engage in hotel work. In general, there is high mobility of people due to proximity of the zone to bordering countries and significant income from remittance for the family.

3.2. Research Design and Sampling

3.2.1. Sampling Procedures

To conduct the research, multi-stage sampling procedure were employed to select the sample. First Kalu Woreda was selected purposively from South Wollo Zone, Amhara Regional State because it is accessible to the Zonal Capital and also known for being the best performing Woreda within the Zone. At the second stage, all 25 FTCs of the Woreda were stratified into three categories i.e. functional, semi-functional and non-functional FTCs. From the whole functional and semi- functional FTCs at least 8 FTC′s (four from each) selected for the purpose of the study by discussing with the Woreda Office of Agriculture and Rural Development.

Consequently, in collaboration with extension agents of the respective FTCs, lists of trained and untrained farmers were prepared (those who had taken either modular or short-term training and those who did not take). Finally, based on the household number of the Pas, 50 trained and 50 untrained farmers' altogether 100 respondents were selected by using probability proportional to size (PPS) random sampling method. To avoid gender bias, 20% of the FHHs respondents, that is, trained and untrained female were selected purposively from each PA.

3.3. Types and Sources of Data

Both qualitative and quantitative data were collected for analysis. Secondary data were collected from documents and reports of zonal and Woreda government offices. Primary data were gathered from 100 sample households, key informants in the community, and focused group discussions and individuals, who were supposed to have relevant information for this particular study.

3.4. Data Collection Instruments

The instruments used for data collection were the national standard/indicators for assessing the status of FTCs, self administered and semi-structured interview and questionnaire schedule. To identify opportunities and constraints of FTCs in the study area, extension agents, supervisors, SMSs and team leader's suggestions were considered which were obtained during SWOT analysis, through discussions and by filling open-ended questionnaires.

3.4.1. Questionnaire

A questionnaire, which includes the background of farm households, was employed as the main source of data collection. It was used to collect data from the trained and untrained farmers about the different aspects of the implementation of FTC based extension delivery system in the study area. The questionnaires consisted of semi structured questions and opinion statements prepared in Likert type scale. The Likert type scale items value ranges from "strongly agree" (5) to strongly disagree" (1) of course, this must be reversed when the statement is negative. The respondents were asked to react to each of the statement of scale in terms of their own agreement or disagreement with the statement. Their reactions were marked by ticking on five-point scale against the respective statement. The recorded responses were counted and converted into mean scores for each opinion statement and ranked accordingly.

3.4.2 Observation Check List

In order to gain understanding about the activities and the current operational status of the FTCs, a checklist that was adapted from criteria set in the FTC work guideline were used to observe the overall compound and contents of the FTC under the study. Thus, the researcher assessed the current performance of the five FTCs with a checklist through direct observation and by asking extension agents, supervisors, SMSs, team leader and key informants.

3.4.3 Key Informant Interview (KII)

The key informant interview members were kebele and FTC leader; kebele manager; trained and untrained male and female farmers (4); 1 male and female from technology users and participants in FTC activities (2), representative DA of the FTC under investigation.

3.4.4. Focus Group Discussion

Group Discussion was held at two sampled FTC centers with eight people consisting of FTC representative DA and kebele Leader, Youth Association, Kebele Manager, Women's Association, representatives from surrounding school and health centers. The participants were selected by using criteria such as knowledge of FTC, level of education, experience. Similarly one group discussion was held at Woreda level with supervisors and extension staff having a total group member of nine.

3.4.5. Documentary Sources

The research work started by reviewing relevant documents gathered from various governmental and non-governmental agencies. Published and unpublished policy documents, development plans (such as five–year strategic plans, extension package manuals) and statistical information were studied for data collection. Moreover, internet

sources, MoARD FTCs program implementation manuals, training guidelines, extension communication system approach and training manuals, reports and teaching aids were collected, analyzed and used for the purpose of this study.

3.4.6 Data Collection Procedures

The study incorporates different procedures. The investigation of the Literature review was made initially to develop theoretical background and instruments of data collection. In this regard, documents, statistical abstracts, and reports have been reviewed to collect relevant information. Then the researcher has visited the Zonal agricultural and the selected Kalu District office to secure relevant documents and information as preliminary survey. Hence, the survey enabled the researcher to select the research FTCs and to get deep understanding for potential sources of data.

3.4.7 Enumerator Selection and Training

Based on the set criteria, eight unemployed youth were selected. In the event, these proved to be of exceptionally high quality in carrying out the duties demanded of them. One-day training for the enumerators was conducted at Kalu District, which was led by the researcher and one Woreda official. The questionnaires were translated into the local language (Amharic) for ease of communication.

The total number of sample respondents was 100, out of which 80 %were male and 20% female. Respondents were the heads of the selected households (Table 1).

FTC/Kebele	Trained			Untrained		
	M	F	Total	M	F	Total
Agamsa	4	1	5	4	1	4
Mekenti	4	1	5	4	1	4
Chorisa	6	1	8	6	1	6
Mekenti	4	1	5	4	1	4

Abahilmie	5	2	7	5	2	5
Arabo	5	1	5	5	1	5
Jerjero	6	1	7	6	1	6
Adamie	6	2	8	6	2	6
Total	40	10	50	40	10	40

Table 1: Category and distribution of sample households of Kalu Woreda (Source:own survey, 2013)

3.5. Variables and their Measurement

In the assessment of the performance of FTCs in the study area the fulfillment of the pre-determined indicators established by MoARD were used and the accomplishment of these standards were compared with the grassroots reality. Thus, considering the objectives in view, the dependent and independent variables have been selected for the present study. The empirical measures have been given below.

Dependent variable

In this study, the dependent variables, performance of Farmers Training Centers and indicators related to its measurements were operationally defined as follows:-

Performance: refers to implementation or efficiency, and measures actual against expected results; it is a proxy measure of the quality of management. According to Abernethy, (1989), performance is represented by its measured levels of achievement in terms of one, or several, parameters that are chosen as indicators of the system's goals. Performance assessment enables verification of the degree to which targets and objectives are being realized. The framework used in this paper distinguishes the assessment of operational performance of FTCs, primarily concerned with the FTC based delivery of agricultural extension education based on the current operational status of FTCs in relation to the national standards developed by MoARD.

Performance indicators: Relate to physical, human, and financial resources and helps to highlight and document what is and what is not working, and to assess the demand and interest for promoting a greater degree of result-oriented management.

Program Performance Assessment: The United States General Accounting Office (GAO, 1998), defines performance measurement as the ongoing monitoring and reporting of program accomplishments, particularly progress towards pre-established goals. In addition, noted that performance measures may address the type or level of program activities conducted (process), the direct products and services delivered by a program (outputs), and/or the results of those products and services (outcomes).

Moreover, performance measurement focuses on whether a program has achieved its objectives, expressed as measurable performance standards based on the current operational status of FTCs in relation to the national standard. Hence, performance assessment aims to support resource allocation and other policy decisions to improve service delivery and program effective.

Independent variables associated with the performance of FTCs

Human resource and capacity development: refers as the number of the development agents assigned as per FTCs. If FTCs have adequate number of DAs, the performance of FTCs will be high and is measured in number as a ratio of DA to FTCs.

Infrastructure and facilities: includes FTC buildings and services such as classrooms, offices, exhibition hall, workshop and residence for DAs. FTC fulfilled with the necessary buildings and services will have a better status and output and is measured in nominal scale (yes or no) and by counting the presence of these services.

Non-educational workload of DAs: This includes the distribution of fertilizer, the collection of credit and taxes, and other government activities that do not typically fall under the mandate of extension. This makes the efficiency of extension personnel to decline when they have to look after many educational and non-educational activities. This is measured in nominal scale (yes or no) and ordinal scale (by the time they spent as quarter, half, three fourth and not at all).

Community participation: This reflects the involvement of the community from inception up to evaluation of FTC based extension activities. FTCs with the presence of community participation, the performance of FTCs and the knowledge of the community about the objectives of the FTC will be high. On the other hand, those with poor community participation the performance of FTCs will be poor and is measured in nominal scale as yes or no.

Incentives for extension personnel: Incentive to extension personnel plays great role in the efficiency and effectiveness of extension services. The effectiveness of an extension service depends to a noticeable degree also on the morale and motivation of its staff. Therefore, the presence of incentive will increase the status of FTCs and absence of incentive will decrease their status. Incentive was measured in ordinal level of measurement as poor, good, very good, excellent.

Demonstration field: refers to a field where farmers demonstrate improved agricultural practices and technologies (learning by doing) what they have learnt in the classroom which occupies 80 percent of the modular training session. Thus, an FTC with enough demonstration fields (2-3 ha) is in a better status and good output and is measured in terms of hectares.

Budget allocation: An FTC that has a better status in budget allocation per year will have better status and good performance. If not, it will be the reverse. It is measured in nominal scale (yes/no) and in terms of birr allocated for FTCs per annum.

Training materials and ICT tools and uses: includes teaching manuals teaching aids used during training to facilitate effective communication and learning. An FTC, which has fulfilled appropriate teaching materials and uses them properly will have better status and show good results. If not the performance and the results will be the reverse. This is measured in nominal scale as 'yes' or 'no' and in numbers by counting the items that are available in the center.

Linkage with other development institutions: includes institutions such as nongovernmental organization and governmental institutions, credit and input suppliers, research centers and others. As a result, FTCs, which have strong linkage with different organizations, will have better capability to run their mandatory roles and have a better operational performance. This linkage is measured in ordinal scale as excellent, very good, good, poor, or no linkage with a rating scale assigned from 1-5. Then ranked according to their mean score they obtain.

Organizational communication: To function effectively, the FTC system should have a well-developed and clear level of authority, adequate resource, agreed aims and committed leadership with vertical and horizontal communication. Poor organizational communication among the hierarchical structure of the system causes the progress of FTCs low. It is measured in ordinal scale as poor, good, very good and excellent.

Monitoring and Evaluation: Monitoring is the systematic gathering and analysis of information on the project or program in terms of the resource used, the outputs produced and the direct results of assisted activity. Evaluation judges the value of assisted activity

by comparing actual direct outputs, socioeconomic results and wider impacts against those targeted during the planning of the project. Therefore, FTCs, which have a regular monitoring and evaluation system, will have better status than those who do not have and is measured by the amount of time the supervision is made.

Transportation facilities: Include horse or mule, bicycle, motorbike and other means. For effective extension work, extension personnel require more mobility to contact clients. If they have no access of transportation, it is difficult for them to cover a large area. It is measured in nominal scale (yes or no) and items (discrete number).

Functional FTCs: FTCs which have fulfilled the basic teaching materials, field equipments, seats, facilities, demonstration field and who started the major mandatory services of FTC (modular training).

Semi-functional FTCs: are those which fulfilled the basic teaching materials, facilities, trainers partially and which have implemented partial mandatory roles of FTCs such as short term and package training.

Knowledge of FTCs: refers to the cognitive scores received by the respondents regarding the four key objectives of FTC establishment. Respondents were asked to mention the main objectives of FTCs. A respondent's answers were compared with the key objectives of FTC establishment. For every correct answer respondent was given the perfect score.

In this study, the maximum possible score for knowledge (K) was 20. Based on this, the knowledge was calculated using the following formula:

$$\text{Knowledge index (Ki)} = Ks / 20$$

Where, Ks is the respondent score on Knowledge

Accordingly, depending on the scores, values are attached as poor for points below 10, moderate for 10-15, and good for greater than 15,

Attitude: refers to either favorable or unfavorable reactions of the respondents towards FTC based extension delivery system. To determine the attitude of farmers towards FTC based Extension delivery system, a likert scale (5 to 1) was used. This includes responses of strongly agree scores 5, agree scores 4, undecided scores 3, disagree scores 2 and strongly disagree scores 1 and vice versa for negative statements.

3.6. Method of Data Analyses

Quantitative data were analyzed using descriptive statistics such as, frequency of occurrence, tables; mean and percentage. Qualitative data were analyzed through interpretation and conceptual generalization. Moreover, strengths, weaknesses, opportunities and threats (SWOT) analysis were used to summarize the results of the research objectives.

CHAPTER FOUR: RESULTS AND DISCUSSION

The objective of this chapter is to present the results and discussion of the study. The chapter begins with describing the demographic characteristics of sample households participated in the study. It gives emphasis on the current operational performance of sampled FTCs with regard to physical, human and financial resources at FTCs. It also depicts the organization of FTC trainings and knowledge sharing activities including training needs assessment, criteria for trainees' selection and determination of methodologies. Furthermore, the chapter also presents the monitoring and evaluation and ends with SWOT analysis of the FTC based extension delivery system of the study area.

4.1. Demographic Characteristics of Sampled Households

Regarding the age of respondents, 74% of trained and 70% percent of untrained respondents belonged to middle age group, whereas 26% of trained and only 6% of untrained respondents belonged to young age group. Whereas, 24% of untrained respondents belonged to old age group, while no trained respondent was under old age category. Considering sex, 80% of the respondents involved in the study were male whereas 20% were female Those who are below the age of 25 years , those whose age is 26-60 years and those above 60 were young, middle and old age groups (Appendix 8).

The educational level showed that 16% of trained and only 8% of untrained respondents had education up to secondary school level whereas, 34% of trained and 24% percent of untrained respondents had primary school education. Thus, 26% of trained and only 28% of untrained respondents could be able to read and write, without any formal education. Thus, nearly one fourth of trained (24%) and one third of untrained respondents (32%) were illiterate. Thus, more than 50 percent of the respondents were illiterate as shown in Appendix 8.

The family size of sample respondents indicated that more than half of the trained and untrained respondents (54 % and 58%, respectively) had medium family size whereas, 26% of trained and 18.00% of untrained farmers belonged to small family size. Thus, 20% of trained and 26% of untrained farmers belonged to large family size (Appendix 8) .

The land holding of sample respondents indicated that more than half of trained farmers (54%) possessed small land holdings, 22% semi-medium land holdings, and 24% medium land holdings. Whereas, in case of untrained farmers, more than one third of respondents (28%) had semi medium land holding, followed by small (64%), and medium (8%) land holding. In general, no trained or untrained farmer is under big land holding category (Appendix 8).

With regard to experience in farming, one fourth of trained (26%) and 14% of untrained farmers had up to 10 years of experience in farming, 58% of trained and 48% of untrained farmers had medium (11 to 30 years) experience whereas 16% of trained and 14% untrained farmers had 31-50 years experience in farming. Nearly one fourth of untrained farmers (24%) had above 50 years experience in farming.

Regarding the distance of residence from FTC, nearly half of trained(48%) and 24% of untrained farmer's residence was less than one kilometer from the FTC, whereas 30% of trained and 42% untrained farmers live 1 – 1.5km away from the FTC. But 22 percent of trained and 24 percent untrained farmers' residences were farther than 1.5 km from the FTC (Appendix).

4.2. Operational Performance of Farmer Training Centers

4.2.1. Human Resource and Capacity at the FTCs

The existence of sufficient number of well-trained, experienced, and motivated DAs is an important determinant of the relevance and effectiveness of FTCs. At the time of the survey, only 7.6% were female among the 22 DAs. The average number of DAs per FTC was 2.75, indicating that most of the FTCs had less than three DAs as per the plan of the MoARD. Thus, the number of DAs at FTCs was below the recommendation of the MoARD and has a great deal of effect on effective operation performance of FTCs (Table 2).

Table 2: Profile of development agents (DAs) in the woreda (n=22)

Category	Frequency	Percentage
Sex		
Male	18	81.81
Female	4	18.19
Total	22	100
Educational level		
Diploma	8	36.36
Degree	14	63.64
Total	22	100
Field of study		
• Plant science	8	36.36
• Animal science	7	31.82
• Natural resource	7	31.82
Total	22	100
Average number of DAs per FTC	**2.75**	

Source: own survey, 2013

With regard to the relevancy of their study to current job performance, despite their small number and training in key technical areas, the majority of the DAs (72.73%) felt that they were not adequately trained to effectively discharge their responsibilities and adapt to changing challenges and conditions (Table 3). In support to this result, Belay and Abebaw (2004), in their findings, had indicated that while in many parts of the country the number of extension workers is very small, the existing ones lack qualification and communication skills.

Therefore, further skills in communication and effective use of media and knowledge management tools are crucial for DAs to be effective. This observation points to the need for continuous capacity strengthening through in-service training and on-the-job coaching as well as giving attention to cultivating the DAs' aptitude for lifelong learning.

Table 3: Opinion of DAs on the relevancy of training to their job performance

Category	Frequency	%
Are the numbers of DA s sufficient to do the job?		
• Yes	3	13.64
• No	19	86.36
Relevancy of the study to current work conditions		
• Not at all relevant	-	-
• Not relevant	-	-
• Somewhat relevant	16	72.73
• Relevant	6	27.27
• Very relevant	-	-

• Total	22	100
Proportion of DAs who felt they were adequately trained to effectively discharge responsibility	16	72.73

Source: own survey, 2013

Regarding the participation of DAs in non-educational activities, the majority of DAs 61.54 percent respond that they participate in non-educational activities while 38.46 percent of them would not. Concerning the time to spent on non-educational activities, nearly half (61.54%) and 14.23% of DAs respond that they spend half and three fourth of their work time, respectively, whereas only7.2% of DAs respond they never spent their time on non-educational activities (Table 4).

Available evidence shows that extension agents are often overloaded with different assignments, such as tax collection, mobilizing farmers for public work, collecting loan repayments, and agitating farmers to become members of co-operatives, which are, in most cases, not related to their normal duties (Belay, 2002). Over the years, the involvement of extension agents in non-extension activities has played against their reputation as development workers. Many people in rural areas consider extension agents as government spokespersons rather than facilitators in the rural development endeavor (Belay, 2003).

Table 4: DAs participation non-educational work and transportation

Category	F	%
Participation on non educational work		
• Yes	14	61.54
• No	8	38.46
Time to spend on non educational work		
• One half of the time	11	78.57

• Three fourth	2	14.23
• none at all	1	7.2
DAs with transportation facility		61.54
• yes	61.54	
		38.46
• No		
• Pedal cycle	6	75
•		

Source: own survey, 2013

Habtemariam (2007) also reported in his findings that the separation of extension and regulatory activities was one of the strong features of PADETES. However, when implementing the system, the separation was made only at the top (federal and regional levels). DAs were forced to do both tasks at the grassroots level (ibid). Furthermore, the findings of FAO, indicates that extension personnel in developing countries spend about quarter of their time on non-educational activities and regarded this as a "major loss of educational resources, where extension coverage is still grossly inadequate, both in quantitative and qualitative terms" (Swanson et al, 1990).

Concerning transportation more than half (61.54%) of DAs reported that they are without transportation (Table 4). Therefore based on the above situations the efficiency of DAs would decline such that the task of teaching farmers appropriate technical practices and convincing farmers to try them is not easy.

Table 5: DAs response on incentive provision and training program (n=22)

Category	F	%
Incentive provision		
Incentive		
• Very Poor	13	59.09

• Poor	9	40.91
Career Offers Benefits		
• Poor	7	31.82
• Moderate	10	45.45
• Good	5	22.73
Promotion avenue		
• Poor	15	69.18
• Good	7	30.82
Award program		
• Poor	22	100
Training provision at Woreda level		
• Yes	22	100
• No	-	-
Relevance of the training at Woreda level		
• Not at all relevant	-	-
• Not relevant	-	-
• Somewhat relevant	18	81.82
• Relevant	2	18.18
• Very relevant		

Source: survey, 2013

With regard to incentive provision, 59.09% of the extension agents rated the incentive provision as very poor, whereas 40.91%, 31.82%, 69.18% and all (100%) of the extension agents rated the incentive provision, promotion avenue and award program of their organization as poor, respectively (Table 5).

Among the respondent DAs, 81.82% of them had rated the relevance of training given to their work conditions as somewhat relevant and only 18.18% rated it as relevant (Table 5). This shows the need for provision of proper training as well as better incentive.

4.2.2 Infrastructure and physical resource capacity at the FTCs

With regard to the prevailing status of infrastructure and physical resource capacity at the FTCs, according to DAs, the majority of FTCs do not have adequate and appropriate living quarters for DAs. More than Two-third (76.92%) of the DAs reported that they had secondary residences at the time of the survey (Table 6).

Table 6: DAs response on inventory of resources at FTC (N=16)

Infrastructure and Resources	Yes		No	
	F	%	F	%
All weather road	13	81.25	3	18.75
Class room	16	100	0	0
Exhibition hall	0	0	16	100
Metrology station	0	0	16	100
Office	16	100	0	0
Store	16	100	0	0
Toilet	8	50	8	50
Water supply	3	18.75	13	81.25
Workshop	0	0	16	100
Residence for DAs	2	12.5	14	87.5

Source: own survey, 2013

Improving living quarters for DAs is important as an incentive to encourage them to live in and spend most of their time with the community to share knowledge, to learn local practices, and to help to solve problems.

Thus, the absence of residence forces DAs to rent residences from nearby localities, which require long daily trips to their respective duty sites. Respondent farmers, Woreda and Zonal extension staff also feel that DAs did not make daily trips to their assigned FTC to run their mandatory activities, rather they pass most of their working time around the towns.

4.2.3. Community Participation and awareness on FTC objectives

PADETES recognized the program ownership rights of communities. This implies that extension agents are accountable to the owners of the program, the community, but not to any other body (Habtemariam, 2007). He further noted that discussions with field level staff do not however prove this reality. Success is associated with achieving development targets and goals or quotas, which are sometimes imposed from above without considering local realities. Similarly, FARM Africa (2005), reported on this line that the DAs perceived their role to be doing what they are told to do by their bosses.

The data regarding participation of respondents in FTC activities indicates that only 40% and 15% of trained and untrained respondent farmers, respectively, participated in the construction of FTC through the provision of labor and material and regularly participated in different activities of extension programs (Table 7). This shows that the participation of the community for which the establishment of FTC was targeted found very minimal thereby resulting in lower status and operational performance hindering its effectiveness and efficiency.

Regarding the knowledge of respondents to the objectives of FTC establishment and activities aimed to be undertaken, almost two-third of trained(60%) and three-fourth (72%) of untrained farmers indicated that they had low knowledge, whereas 16% of trained and 18% of untrained farmers were identified with medium possession of knowledge. On the other hand, only 14% trained farmers and 10% of untrained farmers had possessed a good knowledge of FTC establishment and the targeted activities aimed to be undertaken (Table 7).

Table 7: Opinion of respondents on community participation and awareness on FTC objectives

Category	Trained(n=50)		Untrained(n=50)	
	F	%	F	%
Participation in FTC activities				
♦ Yes	20	30	14	28
♦ No	40	60	36	72
knowledge on FTC objectives				
• Poor/low	32	64	36	72
• Medium	11	22	9	18
Good	7	14	5	10
Good				

Source: own survey, 2013

4.2.4. FTC Buildings and Facilities

Most of the FTCs were built by the government with substantial contributions from kebele communities. Government covered materials and skilled labor costs for construction. The communities contributed their own labor, as well as, locally available materials and inputs. The entire sample FTCs were established in years 2004 to 2006. The FTCs were established with the following objectives: to train farmers and prepare them to graduate in green certificates; to conduct on farm and on station demonstrations of agricultural technologies; and to enhance the livelihoods of smallholder farmers through transferring and multiplying improved seeds.

In spite of the construction of FTCs, a number of them still need to acquire basic equipments and materials. Even those FTCs which are in a better condition in terms of irrigation infrastructure, access to means of transport and services, such as computer with

printer, TV and DVD, electricity and telecommunication were not functional due to lack of training and inadequate attention. Almost half of FTCs (50%) constructed enclosures for keeping live animals for fattening, housing for poultry, and space for keeping beehives, but none of them were functional. This seems mainly because raising live animals would require a budget and continuous feeding, which is a challenge to authorities.

FTCs are also expected to be demonstration sites for improved technologies and equipment and to establish permanent exhibition centers for the display of improved technologies, models, or samples. However, no one has reported a separate space for this purpose.

Regarding utilization, the FTCs and facilities have multiple users and uses. Besides the DAs, farmers or interest groups, local administration, and local research centers had used the rooms and facilities frequently. In addition to learning and teaching activities, the rooms and facilities were used for public meeting, as well as, for storage of inputs and technologies until they are transferred to beneficiaries.

4.2.5. Demonstration Facilities and Uses at the FTCs

The sampled FTCs result shows that all the eight (100%) functional FTCs had some plots for demonstration purposes with an average size of 2.2 ha. With regard to semi-functional FTCs (which did not start modular training) only 25% of them had plots of similar size. The remaining 75 percent of FTCs had plot area of less than 0.75ha (Table 8).

Table 8: Demonstration plot availability and suitability at FTCs (n=16)

Demonstration Plot	Functional (N1=8)	Semi-functional (N2=8)

	F	%	F	%
Plot available				
• Less than a hectare	-	-	6	75
• 1-2 hectares	6	7	-	-
• 2-3 hectares	2	25	2	25
Plot suitable	**8**	100	2	25
Mean size	1.75		0.625	

Source: survey, 2013

Swanson (2009) also noted that many FTC demonstrations fields visited had not been developed or used. While most *kebeles* have allocated 1.0 to 2.5 hectares to each FTC, most FTCs have neither the resources nor the expertise needed to transform this land into an effective teaching/learning tool.

4.2.6. Financial resources

According to DAs, they have no operational budget to carry out their mandatory roles except for payment the monthly salary to DAs and stationery. On the other hand, six FTCs engaged in generating their own income through sales of demonstration outputs, though 20% had reported that the amount is not enough to carry out educational activities at FTCs.

However, DAs revealed that even though we say the income generated from FTCs is enough to carry out educational activities at FTC, unfortunately, it was used to cover the wage of guard who watch the compound for unwanted intruders. Such costs were assumed to be covered by the community.

Swanson (2009) had reported that the lack of adequate operating funds for nearly all FTCs visited is a major and continuing constraint that substantially reduces the extension and training programs at each FTC. DAs also reported that there are no means or budgets

for communication, which limits their ability to, for example, get market information or access remote resources for technical questions (ibid)(Table 9).

Table 9: Source of Budget for FTCs (n=16)

Category	F	%
Amount of annual budget of FTC from government	-	-
Other sources of fund		
• Yes	10	62.5
• No	6	37.5
• Sales from demonstration output	10	62.5
Budget allocated to carry out educational activities at FTC		
• Yes	6	37.5
• No	10	62.5

Source: own survey, 2013

Furthermore, Swanson,et.al.(2010) revealed that the lack of seed money and operating funds to invest in basic training infrastructure and to turn the demonstrations fields into teaching/learning plots to at least partially and economically sustainable reduces the effectiveness of the FTCs drastically.

Similarly, the responses elicited from DAs and Woreda extension team helped the researcher to capture that lack of facilities, and teaching materials forced DAs to focus on theoretical training. Furthermore, most training was based on resources that were found near FTC, such as nursery sites.

4.2.7 Training Materials and Information Communication Technology Tools

The utilization of ICTs in agricultural extension system can energize the collection, processing and transmission of data, resulting in faster dissemination of quality information to more farmers in an interactive channel of communication. This sub-section

presents and discusses the survey results on availability and uses of training materials, audiovisual and other ICT.

Printed media

Relevant and up to date printed materials are important for dissemination and sharing of knowledge and information as well as for training as aids. Manuals were the most commonly available printed materials. Posters on various general and specific issues were the second widely available materials. Reference materials for DAs such as working papers, research reports and books were in short supply (Table 14).

Audiovisual Equipment, Telephone, Computers, and the Internet

Availability of telephone lines at convenient community centers can facilitate communication, access to, and sharing of information. No FTCs had access to telephone line or wireless based communication system. This is also true for Woreda and zonal level agricultural offices. The use of TV, radio and video in agricultural extension for awareness raising are most effective when they are part of a well-designed communication strategy for change.

Out of sixteen FTCs, only five (31.25%) had TV and DVD player. However, none of FTCs was seen using the TV or DVD for any extension purposes (Table 10).

According to the FTC guidelines, DAs are expected to collect and document basic agricultural and socio-economic information of their respective kebeles and to capture and document indigenous knowledge and successful practices of farmers and communities. Access to computers by DAs makes such documentation and information management efficient. Once captured on computers, such information can also be organized and disseminated in different forms for use by local producers, entrepreneurs,

schools, etc. Further, access to computers will become important with increasing role of agricultural extension for knowledge and information services. However, electrical power supply is a necessity to make use of the audiovisual and IT equipments. Based on the survey, only 25% of the FTCs had power supply.

Table 10: Status of printed media, telephone, computers and audiovisual equipments at FTCs (n=16)

Category	F*	%
Computer	2	12.5
Printer	2	12.5
TV	5	31.25
DVD	5	31.25
Telephone lines	-	-
Research reports	-	-
Manuals	11	68.75
Posters	8	50
Electric power	4	25

Source: KWARD, 2013 * Multiple counts

4.2.8. Organization and Management of FTCs

Kebele committee headed by a chairperson governs FTC resources. DAs also have direct contact with their heads and Kebele chairperson on the issues of the FTCs and agriculture related matters. On the other hand, in a group discussion held with extension team, it was identified that the extension team at Woreda and zonal level was poorly organized for technical support and supervision, as the FTCs are managed by the respective DA's and Kebeles.

With regard to the decision of activities to be undertaken and control, questions were raised from participants during group discussions conducted at FTC level by reflecting who is responsible for the overall activities to be implemented at FTC. They had no right to run the activities that had been planned by justifying that the site is mostly used for demonstration purposes for crop varieties that the Woreda brought without assessing the need of farmers.

It is clearly stated in FTC guideline that an important function of the Woreda agricultural office is to facilitate the effective functioning of the mandatory roles assumed by FTCs, but the management and control was the responsibility of Kebeles.

4.2.9. Organizational Linkages and Information Network

The linkages between FTC extension system, research and other relevant organizations as perceived by DAs have been very weak, in which the mean value of all rests below moderate (3).However, the mean value of the linkage of FTC extension system with the majority of stakeholders rests close to 2, indicating the presence of weak linkage (Table 11).

Accordingly, Habtemariam (2006) also reported that in most cases, poor linkages between extension, research, and farmers have been singled out as the major reason for lower performance of the extension and research organizations in many developing countries like Ethiopia.

Habtemariam (2006) further stated that there had also been various attempts both by the extension and research organizations in devising linkages. However, in most of the cases the arrangements failed to work satisfactorily due to various reasons, such as frequent restructuring of organizations, poor farmers' representation, high staff turnover, budgetary limitations, lack of commitment, and in some cases rivalry of institutions as if

they were competing each other rather than complementing to attain a common development goal.

For extension to succeed, it must enhance its linkages and networks with research, farmers, and among extension providers at FTC level. This way the competence of extension to transfer agricultural technology to farmers will be improved.

Table 11: Opinion of DAs on linkages of FTC with other organizations (n=22)

Organizations	Total score	Mean	Rank
Agri/research organizations	37?	1.68	5
Private sector /input supply firms	16	1.38	6
ATVET colleges(Kombolca/Woreta)	16	1.38	6
NGOs	12	1.83	4
Woreda or local government agencies	9	2.44	2
Micro-credit institutions	12	1.83	4
Private sector markets or exporters	22	1	7
Cooperatives	10	2.2	3
Woreda OoARD	8	2.75	1
Zone OoARD	9	2.44	2

Source: own survey, 2013

Note: The sum of value (frequency × values assigned to each degree of agreements (scales from no linkages (1),weak (2),moderate(3),strong(4) to very strong linkages (5) was divided by the total number of respondents for each stratum to obtain the rating means).

4.3. Organization of the FTC Trainings and Knowledge Sharing Activities

4.3.1. Training Needs Assessment

It appears that all (100%) of the trained farmers respond that there was no attempt made to assess their need on the courses they want to take before the training program in all aspects. Among the respondents, 61.54% of DAs indicated the course selection was done only by addressing farmers committee and 38.46% stated only by talking with Kebele leaders.

Moreover, it was also clear from the findings that farmer trainee's involvement in selecting the training courses (Table 12). The evidence shows that 61.54% of the DAs had stated the absence of involvement of trainees, whereas, only 38.46% of DAs revealed that there is a fair level of involvement of trainees in their course selection. This means that the topic of training was proposed first by concerned DAs and then proposed to Kebele leaders and the committee who are responsible for searching and recruiting trainees to fulfill their quota (forceful plan from above).

With Regard to the selection of trainees, all of them were selected by DAs and local administrative leaders jointly. Actually, 72% of the respondents asserted that development agent is the sole responsible person for trainee selection (Table 12). Similarly, all (100%) trained farmer respondents had claimed that they were not asked for the course they want to take.

With regard to criteria for trainee selection, more than half (56%) of trained farmers indicated that it was model farmer focused whereas, 44% had reported that it was educated farmer focused. Thus, the result of the study had indicated that, the absence of any attempt made by the training organizations to practice training needs assessment on a regular and continuous basis, aimed at extending the beneficiaries active participation.

This indicates that extension plan is made top-down without any opinion gathered from farmers, as such, the plan may not meet the demand of farmers, and farmers just implement the plan.

Habtemariam (2007) also indicated the weakness of PASDEP, in that; there is a general lack of understanding about the role of extension. The agent, who appreciates the knowledge, value and culture of the formal school and research system, lacks to understand and communicate effectively with the people who came from the informal setting, but possesses the wisdom of traditional knowledge and local innovations (ibid).

According to Belay (2002, 2003) farmers have the possibility to make their voices heard and influence the extension system to be more responsive to their real needs and specific conditions. However, the findings of recent studies on the Ethiopian extension system reveal that farmers have a very marginal contribution in designing and formulating extension activities (ibid).

Table 12: Opinion of trained farmers on implementation of modular training (n=50)

Category	F	%
Who was selecting the farmer trainees?		
• DAs	36	72
• Kebele leaders\local administration	14	28
Were you asked about the course you want to		
• Yes	0	0
• No	50	100
Criteria used for trainees' selection:		
• Educated farmer	22	44
• Model farmer focused	28	56
Methodologies used during your training:		
• Class room lecture	29	58
• Visiting demonstration fields	8	16

• Group discussion	3	6
• Field practices/learning by doing	10	20
Which method do you think is more appropriate to teach		
• Visiting demonstration fields	4	8
• Group discussion	10	20
• Field practices/learning by doing	36	72
Expectation of trainees in meeting needs		
• Not at all	16	32
• Yes to some extent	26	52
• Yes to a great extent	8	16

Source; own survey, 2013

With regard to the methodologies used during the training program more than half (58%) of trained farmers indicated that the training was based on classroom lecture whereas 20%, 16% and 6% had indicated that the training program was based on field practice, demonstration visit and group discussion, respectively (Table 12).

Concerning the appropriateness of training methodology used during the training program, nearly three fourth (72%) of trained farmers preferred field practice, whereas, only 20% and 8% of trained farmers indicated group discussion and field visit, respectively (Table 12).

Thus, one can understand from this study that the training process and its implementation did not consider the principles of adult learning and farmers' participation in the training process. Due to this fact only 16 percent of trained farmer responded that they were satisfied but 52% were satisfied to some extent and 32% not satisfied at all.

Therefore, the result of this study also showed that most of the training and extension activities offered at FTC were not demand-driven and were pressed upon them to solve the problems and felt needs of the households.

4.3.2. Organization and Implementation Process of Modular Training

With regard to contact of farmers after training for further support, the result shows that 46% of DAs responded that farmers` contact was 'to a slight extent', whereas, the remaining 38.36% and 15.38% of DAs had responded to a 'fair extent' and 'not at all'. It was also reported that the majority of DAs (46.16%) visit trained farmers within a month while 38.16% of DAs reported with less than 10 days (Table 13).

Regarding the organization of the training program in order to teach farmers of different level of knowledge and the availability of training materials, the majority of DAs (59.09%) had reported the absence of well-established program and at the same time shortage of teaching materials. The remaining 38.46% of DAs reported the presence of well-established program and the availability of training materials (Table 13).

Table 13: Opinion of DAs on the process and implementation of modular training

Category	F	%
System used in identifying farmers' training needs:		
• Address the farmers committee	13	59.09
• Talk to leaders	9	40.91
Criteria used in identifying training courses:		
• Suggest courses by yourself	9	40.91
• Address the farmers committee	13	59.09
Farmers involvement in identifying training courses:		
• Not involved at all	13	59.09
• To a less extent	9	40.91
• To a fair extent	-	-
Do Farmers contact you for further support?		
• Not at all	2	9.09
• To a slight extent	11	50
• To a fair extent	9	40.91
Time to visit farmers who have just been trained		
• < 10 days	9	40.91
• 11 – 20 days	2	9.09

• 21 – 30 days	11	50.00
• > 30 days		
Well-established program per course for teaching different levels of farmers:		
• Yes	9	40.91
• No	13	59.09
If not, does that have an effect on the relevancy?		
• Yes	9	40.91
• No	13	59.09
Availability of enough training materials:		
• Yes	9	40.91
• No	13	59.09

Source; own survey, 2013

4.3.3. Effectiveness of FTC-Based Modular Training

Out of the total trainees, 48% of them responded that the timeliness of the training program, in terms of delivery with respect to farming activities and rainfall patterns, was appropriate (Table 14).

The study revealed that 50% and 48% of the trained farmers had claimed that the knowledge change and satisfaction from the modular training conducted at FTC, respectively, were poor (Table 14).

When asked to evaluate the modular program on the basis of its relevancy to address the pressing problems and felt needs of the farmer, only 16% had appreciated the training exercise. In general, the result shows that most of the training offered at FTC does not reflect the satisfaction of trainees (Table 14).

Regarding the adequacy and quality of training facilities, only few had a positive response.Concerning the knowledge of the trainer, 72% of the trained farmers had

positive response. With regard to the practical farming skill of trainers, 76% of the respondents had also a positive reaction. (Table 14).

Furthermore, evaluation is a process to determine the relevance, effectiveness, and impact of training activities in light of their objectives. In this regard, the result showed that only 24% of the trained farmers responded positively. (Table 14). This shows that there was no follow-up regarding the practical implementation in skill and knowledge of trainees in their farming activities after training.

Table 14: Trained farmers opinion on effectiveness of FTC-based training (n=50)

Category	P	S	G	Mean score
	%	%	%	
Timeliness of training	48	44	8	1.6
Relevance of the new technologies	32	48	20	1.88
pressing problems and felt needs	40	44	16	1.76
Adequacy and quality of training facilities	34	66	-	2
Knowledge of the trainers (DAs)	28	30	42	2.42
Practical farming skills of the trainers (DAs)	24	40	36	2.36
In knowledge and skill change	50	44	6	1.56
Follow up after the training	76	14	10	1.34
Satisfaction with the result of the training	48	40	12	1.64

Source; survey, 2013

Note: symbols represent- P-Poor (1) S-Satisfactory (2) G-Good (3)

Farmers' training is an integral component of the agricultural extension services of the country for which the establishment of FTCs were targeted to produce a well-equipped skilled farmer. Nevertheless, the existing farmers training process is blamed with a number of deficiencies that was also identified in this study.

According to Kefyalew, (2006) the basic issues such as conducting of appropriate farmer training needs assessment, participation of farmers in curriculum development, content determination and on deciding the duration and schedule of the training program and incorporating farmers indigenous knowledge in the program in order to make the learning experience more participatory and relevant are among the limitations. Hence, the training process and the organizational aspect of the program was pursued by using coercion to involve farmers just to fulfill the required quota.

4.3.4. Relevance and Appropriateness of FTC Based Extension Delivery System

Examining the perception and opinion of farmers towards the extension service delivery system provided by FTCs was one of the main objectives. The focus of this parameter was on the attitude of farmers towards the extension service delivery system offered by the FTCs.

The households were asked to rate the relevance and appropriateness of FTC based extension system and are made to place their agreement or opinion for seven items on a scale consisting five points: strongly agree, agree, neutral, disagree and strongly disagree with values of 5,4,3,2 and 1, respectively.

Concerning the issue of FTC in reaching and being understood by the intended participant groups, only 18% had positively responded, this implies that there is a need of involving the beneficiaries in the development activities through a continuous process of training (Table 15).

Based on composite indicators of the DAs, such as, practical and communication skills and motivation to serve the rural people, respondents had asserted that most of the trainers were technically skilled, familiar with local situation and they have farming background. This implies that skill of the facilitator could be one concern, solely assisting

adults to meet those learning needs that they themselves perceive and express as meaningful and important (Table 15).

With regard to the daily trips of DAs to their site, 36% of respondents claimed that it is difficult to see them, whereas 8 percent strongly disagreed and 24 percent disagreed, respectively. The remaining 32 percent neutrality of the respondents also reveals that the absence of DAs daily movement to their assigned FTCs (Table 15).

Table 15: Farmers opinion on effectiveness of FTC based extension system (n=100)

Statements	SD	D	N	A	SA	Sum	Mean
	F	F	F	F	F		
FTC is reaching and being understood by the intended participant groups	-	52	30	18	-	266	2.66
The services given by FTC are not sufficient demand-driven	-	28	32	28	12	296	2.96
Information at FTC helps to sell farm products our produce at a reasonable price	8	62	-	26	4	256	2.56
DAs are highly motivated to serve farmers	12	20	30	29	9	303	3.03
DAs are well experienced farming	7	26	30	28	9	306	3.06
DAs teach farmers on technologies which we cannot apply in practice	28	44	-	28	10	278	2.78
DAs do not make daily trips to their assigned FTC, and difficult to see them	8	24	32	36	-	296	2.96

Source; own survey, 2013

Note: symbols represent-SD-Strongly Disagree (1): D-Disagree (2): N-Neutral (3) A-Agree (4): SA-Strongly Agree(5): The sum of value (frequency × values assigned to each degree of agreements) was divided by the total number of respondents for each stratum to obtain the rating means.

As shown in Table 15, the Mean distribution of attitude scores of the majority of the sample respondents indicated dissatisfaction with a mean value below 3. The minimum attitude score was 256, whereas the maximum score was 306.

Swanson (2009) had also indicated that farmers interviewed noted that in some cases it is difficult to see the DAs because they are so far away and do not have transport. Further noted that farmers interviewed were demanding specific skills from DAs; however, DAs lacked the necessary practical experience and expertise to teach these skills.

4.3.5. Output of the Training Offered at FTCs

Quite a large number of the trained farmers had felt a change in their overall attitude towards the external world of development, interpersonal communication, and knowledge on enhancement in quality and quantity of yield and on technology adaptation. However, only the minority had experienced improved income and saving (Table 16).

Table 16. Trained farmers' response on interpersonal development (N=50)

Category	F	%
Increased knowledge seeking behavior	21	42
Communication improvement	14	28
Technology adaptation and use	10	29
Improved income and saving	5	10
Quality and quantity of production improvement	11	22

Source; survey, 2013

Note: Number exceeds 50 as respondents could check more than one category (Multiple responses).

4.4. Monitoring and Evaluation

Regarding the implementation of activities undertaken, no FTC has conducted evaluation to assess the positive or negative impact of the implemented program on the situation of

target group. The general discussions conducted with trained farmers had indicated that there were no regular follow-up activities after training. The probable reason for not conducting evaluation of the training could be lack of a systematic needs assessment that can guide and serve as the basis for the design, development, delivery, and evaluation of the training program. It is clear that the absence of training evaluation phase from the FTC based training program could lead to lack of information on the immediate results of the training activities.

Moreover, Kefyalew (2006) had indicated that in many other organizations in Ethiopia the training organizers might not consider its value in completing the training process and end up conducting the training.

4.5. SWOT Analysis of FTC Based Extension Service Delivery

Assuming that the stated factors under each of the strengths, weaknesses, opportunities and threats have the same weight of one unit, the summary of the SWOT analysis of the FTC based extension system is presented in Table 17. The outcome of the analysis is depicted here below:

STRENGTHS (own survey, 2013)

1. Agricultural offices have gained extensive experience in rural development and are trailblazers in community training and in the production of training materials;
2. Agricultural offices have a well-developed organizational set-up, competent staff, physical assets and facilities;
3. The GoE is committed to creating an enabling environment for its target groups to actively participate at all stages of the implementation of its programmes;
4. The GoE is committed to empowering the rural poor by giving them the support they need to establish their own institutions as well as to strengthen them;

5. Office of agriculture has been able to win the trust and respect of the communities it has been serving;
6. The workers of office of agriculture wholeheartedly respects the indigenous knowledge, culture, religions and beliefs of the communities it serves;
7. The department has indisputably made a big difference in the lives of the rural households—in particular, in the lives of the poor and women—in the areas where it has been operating;
8. The department has been able to scale up and help the replicate some of its good practices—notably, to other areas serving as center of demonstration, and farmers innovative activities.

WEAKNESSES (own survey, 2013)

1. Inadequate number of extension staff at FTC and Woreda level;
2. Extension workers are oriented towards certain crops/activities rather than towards solving the farmer's problems;
3. Still top-down and non-participatory approach dominates;
4. Limited participation by women farmers;
5. DAs use coercion to involve farmers to fulfill quota;
6. Poor linkage and coordination with research and relevant stakeholders;
7. Inadequate utilization of its human resources and assets—such as its computer and printer and motor cycle;
8. The organizations planning, monitoring and evaluation (PME) exercises are focused on the programmes' quantity/ outputs, rather than on the impacts thereof;
9. Its Information Management System is very weak and not yet developed;
10. Insufficient cooperation and coordination with other agencies, such as planning institutions and credit institutions, at different levels;

11. Professional and institutional linkages between research, extension and education that still need to be improved;
12. The current extension facilities' failure to meet demand fully, as a result of shortages of financial resources;
13. The extension staff are insufficiently qualified to meet the needs of farmers in the market- oriented economy;
14. Limited use of alternative extension methods. In practice, administrative intervention methods are still dominant;
15. The use of improper approaches during the planning of the extension programmes. There is a high level of governmental policy orientation and insufficient participation of farmers in the planning, implementation and evaluation of extension programmes.

OPPORTUNITIES (own survey, 2013)

1. The Government has put in place favorable agricultural and rural development policies and strategies that serve as the appropriate legal framework for ensuring food security and agricultural transformation;
2. Political and economic power have been decentralized, thereby paving the road to the participatory development of grassroots communities;
3. Massive push towards use of better technology and input to enhance productivity for improved livelihood and well-being of farming households;
4. The growing interest of government and farmers for agricultural commercialization and diversification activities ;
5. The presence of clear guideline, curriculum and teaching module;
6. The presence of cooperatives, input supply and credit institutions;
7. Participation of governmental projects such as, RCBP to support FTC's in facilitating extension activities;

8. Expansion of communication facility that aware farmers on both demand and supply side;
9. Current market opportunity that need quality and quantity product;
10. The availability of infrastructure throughout the Woreda and access to information to communicate with FTCs;
11. Many of the smallholder farmers have manifested, among other things, the will and ability to undertake certain activities in an innovative manner and have enough indigenous knowledge that an extension system can build on;
12. There is Political and organizational commitment for promoting extension education to empower the farming households thereby improving the output and livelihood of households.

THREATS (own survey, 2013)

1. The still-lingering legacy of the centralized and blueprint development approach;
2. The inadequate capacities of the local governments to properly implement the pertinent policies and strategies;
3. High turnover of DAs and extension staff

Table 17: Summary of SWOT analysis

Type	Strength	Weaknesses	Opportunities	Threats
Weighed Score	8	15	12	3

Source: own survey, 2013

Based on the above data, the weaknesses and opportunities of FTC based extension systems outweigh the strengths and treats, respectively. The implication is that the system is viable. Therefore, the extension system has to leverage or control the

weaknesses to exploit the opportunities at hand and need to respond to the threats to get the most out of their strengths.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. SUMMARY

This research was conducted to assess the current operational Performance of Farmers Training Centers in Kalu Woreda of South Wollo Zone, Amhara National Regional State. The Woreda capital, Kombolcha, is located 375 km away from Addis Ababa along Dessie road. Among the Woredas of South Wollo Zone, Kalu Woreda is relatively a high potential area for agriculture production and has many opportunities for rural development.

To enhance rural development and agricultural transformation in the Woreda different development activities have been implemented by the government, non-governmental organizations and the community. Among these development activities carried out, the establishment of FTCs at every kebele is an emerging agricultural extension strategy, aiming at developing human capital through training to enhance farmers' knowledge, practical skills, aspiration and practice change for improving production and productivity and rural livelihoods.

Starting from 2004, Twenty Five FTCs have been constructed in the Woreda and currently only seven of them are functional. However, their present operational performance, opportunities for their success, constraints that impeded them in implementing their mandatory roles and the opinion of beneficiaries towards the mandatory roles of FTCs were not identified through empirical studies in order to take appropriate action for the improvement of extension services delivered by farmer training centers (FTCs).

Therefore, this study was carried out to assess the operational performance of FTCs in relation to the government policies and strategies, to investigate the perception and

opinion of farmers towards the extension delivery system at FTCs and to examine the opinion of trained farmers towards modular training provided at FTCs in the Woreda. Accordingly, the study identified the opportunities for strengthening FTCs, the constraints that hampered FTCs in implementing their mandatory roles.

Eight purposively selected Kebeles of Kalu Woreda were used for the purpose of the study and the household survey covered 100 randomly selected farmers, 50 trained and 50 untrained. In addition, 22 DAs and 10 Woreda experts were also consulted during the data collection process. Semi-structured interview schedule was used for collecting the essential quantitative data from the sampled trained and untrained respondents. Qualitative data was collected through observation, focus group discussions, expert and DAs interviews.

The quantitative data was analyzed by using descriptive statistics such as cross tabulation, frequency and percentage. The qualitative data was analyzed through interpretation, triangulation, description and appreciation of facts.

In addition, a Likert- type response format were used to rate opinion of farmers, the anchors for this scale were strongly disagree, disagree, agree and strongly agree with the middle point on the scale being neutral. Moreover, SWOT analysis was under taken to identify key internal and external factors that are important to achieving FTCs objectives.

Based on the result of this study the summary of the findings revealed that:

Among the twenty Five FTCs of the Woreda, twenty three of them (92%) more or less have fulfilled teaching materials, equipment and sitting accommodation for the teaching-learning process but only seven FTCs started modular training. The focus of the extension system has been more on delivering agricultural technologies than on

facilitation to build the capacity of rural farmers to solve their own problems. By structure, every FTC has a development committee who run the FTC work activities but on the ground, it is not active. The majority of FTCs own less than one hectare of land suitable for demonstration.

DAs surveyed, have indicated the multiplicity of jobs they were given to perform. Besides, the activities of DAs were not only limited to agricultural extension as they included other non-extension activities. This will discourage farmers from communicating with DAs more frequently and seek advice. The study also revealed that the lack of furniture, lack of adequate operational budget, shortage of demonstration area and materials for FTC are among the factors that hinders its operational performance.

Moreover, inadequate number of DA's and absence of residences nearby, absence of incentive and motivation, lack of more practical and communications skills, low community participation and awareness on the objectives of FTC establishment are the major constraints that hinders the functionality of FTCs. In addition, the assessment component of the program appeared to be very weak. Monitoring and evaluation system has not been properly developed and implemented. Apparently, extension program performance measurement was often based on number of farmers reached out than on impact.

Furthermore, the linkage between extension service providing agencies and institutions involved in research, technology multiplication, input supply, credit and marketing remained weak and not been institutionalized.

5.2. CONCLUSION

Based on the findings of the study it can be concluded that, out of the twenty five (25) FTCs of the Woreda, seven of them (28%) have fulfilled the basic teaching materials,

equipment and facilities for the teaching-learning process in a better way than the others and their problems are less severe. Although, the studied area has ample of opportunities to make FTCs more effective, however, the training program lacks sustainability. On the other hand, 18 FTCs from the twenty five FTCs also have fulfilled the basic teaching materials, facilities and equipment moderately for the teaching-learning process they did not start modular training. Most of the FTCs were not able to realize the government's program into practice. Even if, the level varies, all of the FTCs have a lot of constraints and weaknesses in implementing their tasks. Concerning farmers' opinion towards the mandatory roles of FTCs, majority of the FTC's beneficiary respondents were from the category of favorable opinion. The perception reflected by trained and untrained farmers towards the mandatory services of FTC's was more or less similar.

5.3. RECOMMENDATIONS

The following recommendations are made based on empirical findings that were discussed in the previous sections of the study. Accordingly, WoARD and concerned stakeholders need to make a concerted effort to implement the following recommendations to improve the operational performance of FTCs:

There are 25 FTCs in Kalu Woreda and on average 1.18% extension workers per FTC and 1.3% for sampled FTCs, which is insufficient for any purpose envisaged. Adequate number of extension workers can improve the learning and dissemination of knowledge among the farming population, enable farmers to fully participate in the planning of extension program, promote a closer, participatory working relationship between staff and farmers;

The effectiveness of the work of farmers' training center is almost entirely dependent upon the quality, ability, competence, and commitment of extension agents. They have to

be provided with the necessary incentives (like salary payment, education, housing, transportation, promotion) to keep their morale high on the basis of their performance;

The FTC based extension approach needs to consider the provision for location specific extension service in which the beneficiaries are involved in extension activities from planning through implementation and monitoring and evaluation, including need based training;

Each FTC should have a management committee, representing all clientele groups within the community, including men and women farmers, as well as rural young people and cooperatives and the DAs which enhances the ownership of the FTC by the beneficiaries at kebele level;

There should be an improvement in close co-operation between extension agencies, research institutes and relevant stakeholders if farmers are to be provided with the services they require;

Implementation of facilities according to the design of FTCs helps to overcome the problems regarding residence for DAs, transportation, field and technological equipments;

Monitoring and evaluation is essential so that all stakeholders and the teaching staff at FTC are satisfied that the center, is working for the needs of the farming community;

The Woreda level experts, team (SMSs) together with FTC-level extension unit need to continuously monitor during implementation and provide technical backstopping;

For the effective functioning of FTCs there should be clear authority, agreed aims and good leadership with formally established rules, procedures and modes of operation.

Similarly articulating farmer priorities and getting these into extension work-programs needs to be a central design feature of FTC activities;

Efforts taken by the government to enhance the capacity of DAs through ATVET colleges are commendable ones and it has to be strengthened further to provide on-the job training as well;

The training should be designed according to farmers' needs and interests, by preparing a menu list of courses with their duration;

The courses offered at FTCs must be more practical rather than theoretical in order to make both educated and uneducated farmers more skillful. Learning by doing with demonstrations be conducted in the compounds of FTCs according to the contexts of the area or searching sites such as farmers own land or commonly protected areas;

The Farmers Training Centers expect a person to have literacy and numeracy skills to be eligible to participate in the courses. However, the vast majority of farmers who need the skills training courses do not have the requisite literacy skills to participate. Therefore, the Farmers Training Centers should incorporate literacy and numeracy;

Regarding the result of the SWOT analysis the Woreda extension system has to leverage or control the weaknesses to exploit the opportunities at hand and need to respond to the threats to get the most out of their strengths;

Finally the author recommends that, to improve the relevance and effectiveness of farmers training at FTCs in different aspects and to generate more information in order to enhance the knowledge and capability of farmers which can serve as an experience for others further studies has to be conducted.

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APENDICES

Appendix 1: Interview Schedule for Trained Farmers

Research site: Amhara Region, South Wollo Zone: Kalu District: PA: _____

Section One: General Information

1. Name of FTC _____
2. Interviewer full name: _____
3. Date of interview _____
4. Name of respondent _____
5. Age _____years.
6. Sex male _____ Female _____
7. Marital status 1) married 2) single 3) widowed 4) Divorced
8. Educational level:-
   1. Cannot read and write 0
   2. Able to read and write 1
   3. Primary school (1-4 class) 2
   4. Secondary school (5-8 class) 3
10. Family size male _____ Female _____ Total _____
11. Agro ecology 1) Dega 2) Woyina dega 3) Kolla
12. Type of cultivation
    1) Rain fed 2) Irrigated 3) both
13. Total Land holding in ha _____
14. How did you acquire the land?
    1) Land distribution 2) Inheritance 3) Gift 4) Rented in 5) Shared in
15. How long have you been farming?
    1) 1-5 years 2) 6-10 years 3) 10 years
16. How far is your residence from FTC _____ in kilometer?

17. Where would you consider yourself at present?
    1. Subsistence farmer 1
    2. Emerging farmer 2
    3. Commercial farmer 3
18. Where would you like to see yourself from now to in five years time?

1. Subsistence farmer 1
2. Emerging farmer 2
3. Commercial farm 3

Section Two: Participation and position in rural institutions/organizations

19. Indicate the organization in which you are a leader/member

Organization name	Member		Leader/ management member?	
	Yes(√)	No(√)	Yes(√)	No(√)
Development group				
PA/Got Food security task force				
Model farmer				
Farmer Research Group				
Cooperative				
Women affairs				
PA council				
Youth association				
Member of political Party				
Other (specify)				

20. Would you tell us what you know about FTC?

_____

_____

21. From where did you get agricultural extension services, other than FTC?

_____

22. Have you ever participated in FTC work activities in your PA?

1) Yes 2) No

23. If yes, what did you contributed to FTC establishment and activities so far?

_____

_____

24 If no, what was your reason for not participating?

_____

_____

Section three: Farmer assessment of the relevance and appropriateness of extension delivery and FTC-based training:

25 In your opinion, how would you sum up the overall extension delivery system within FTC institution? Provide a rating from 1 to 5, using the following scale:

No	Items for assessment /statement	1	2	3	4	5
		Strongly disagree	Disagree	Undecided	Agree	Strongly
1	Better to Reliance on Indigenous Agricultural Knowledge than FTC					
2	FTC is reaching and being understood by the intended participant groups					
3	Knowledge of farmers about the aim of FTC is now correct					
4	Farmers are now acting on based on the knowledge they gain from FTC					
5	Going to FTC is wastage of time					
6	The services given by FTC are not demand-driven					
7	Information and technologies from FTC did not met to our local situation					
8	I have got a lot of information after the establishment of FTC					
9	Due to lack of market information we are exploited by brokers and traders					
10	Information from DAs at FTC helps us to sell our produce at a reasonable price					
11	Extension agents in FTC do not want to accept and learn from farmers and the community					
12	I don’t know for what purpose the					

	FTC was established in our PA					
13	The extension agents in FTC are highly motivated to serve farmers					
14	DAs in the FTC serve the community by going to remote areas					
15	DAs in FTC do not like to go and serve the community in remote areas					
16	The DAs in FTC are well experienced in matters of farming practices					
17	Extension agents teach farmers on technologies which we cannot apply in practice					
18	DAs do not make daily trips to their assigned FTC, and difficult to see them					
19	DAs and experts have low technical capacity and morale					

26. Have you attended modular training at FTC?

1) Yes 2) No

27. Did the courses you attended meet your needs or expectations?

1. Not at all 1
2. Yes to some extent 2
3. Yes to a great extent 3

28. Who was selecting the farmer trainees?

1. Woreda office of agriculture
2. DAs
3. PA leaders\local administration
4. Woreda cabinet
5. Other (specify): _____

29. What are the criteria for trainees' selection?

1. Friendship based
2. Blood relation based
3. Biased towards educated farmer
4. Model farmer focused
5. Political tie focused
6. Rich farmers
7. Other (include it)

30. What were the methodologies used during your training?

1. Class room lecture
2. Visiting demonstration fields (result and method demonstration)
3. Group discussion
4. Field practices/learning by doing
5. Visiting model farmers
6. Other (specify) _____

31. Which method do you think is more appropriate to teach farmers?

1. Class room lecture
2. Visiting demonstration fields (result and method demonstration)
3. Group discussion
4. Field practices/learning by doing
5. Visiting model farmers
6. Other (specify): _____

32. In your opinion, how would you sum up the relevance and appropriateness of FTC-based training? Provide a rating scale 1-5

No.	Relevance of training activities/process	1 Very poor	2 Poor	3 Good	4 Very Good	5 Excellent
1	Timeliness of training					
2	Relevance of the new technologies					
3	Practices to your pressing problems and needs					
4	The extent to which the learning experience reflected and rooted in the local context (indigenous knowledge)					
5	Suitability of the timing of the training					

6	Suitability of the schedule of the training					
7	Suitability of the venue and the place where sessions were conducted					
8	Adequacy and quality of training facilities, particularly for practical sessions					
9	Knowledge of the trainers (DAs)					
10	Practical farming skills of the trainers (DAs)					
11	Communication skill of the resource person					
12	In knowledge change					
13	Follow up after the training					
14	Your overall level of satisfaction with the relevance of the training					
15	Suitability of the timing of the training for both male and female					
16	Suitability of the schedule of the training for both male and female					

33. How would you describe the quality of the FTC's activities (training, Demonstrations, information, advice, scaling up shows, etc.)?

Provide a rating from 1 to 5, using the following scale:

1	**2**	**3**	**4**	**5**
very poor quality	poor quality	satisfactory	good quality	excellent quality
Comment				

34. Have the trainings been effective in producing the desired outcomes and impacts up on you and your neighbors'?

1. Yes 2. No

35. If yes, please mention the outcomes and impacts of the training

1. Behavioral change such as increased knowledge seeking behavior
2. Communication improvement such as farmer-to-farmer knowledge flows, two way flow of knowledge and information between farmers and DAs

3. Lesson learnt and adopted such as technology assessment skills, technology adaptation and use ,soil fertility management

4. Increased collective action on voluntary basis for natural resource management,

5. Loss reduction of produce,

6. Quality of life improvement

7. Economic benefit such as improved income and saving

8. Social benefit such improved gender relations, health and education status

9. Other (specify)

36. In your opinion, who has benefited from the FTC information communicated by the extension agents? In addition, who does not? Why do you think certain groups have not benefited?

_____

_____

37. Thinking about the extension delivery system provided by FTC, do you think your neighborhood gets better, about the same or worse training than other FTCs?

1) Better 2) About the same 3) Worse 4) Don't know

38. If better or worse, in your opinion, what do you think is the main reason why your neighborhood provides (better/worse) training?

_____

_____

Appendix 2. Interview Schedule for Untrained Farmers

Research site: Amhara Region, South Wollo Zone: Kalu District

Section One: General Information

1. Name of FTC _____

2. Serial number _____

3. Interviewer full name: _____

4. Date of interview _____

5. Name of respondent _____

6. Respondent code no._____

7. Address: Woreda _____ PA/FTC _____ Village _____

8. Age _____

9. sex male _____ Female _____

10. Marital status 1) married 2) single 3) widowed 4)Divorced

11. Educational level:-

1. Cannot read and write 0
2. Able to read and write 1
3. Primary school (1-4 class) 2
4. Secondary school(5-8 class) 3

12. Family size male _____ Female _____ Total _____

13. Total Land holding in ha _____

14. How long have you been farming?

1) 1-5 years 2) 6-10 years 3) 10 years

15. How far is your residence from FTC _____ in kilometer?

16. From where did you get agricultural extension services, other than FTC?

a) _____

b) _____

c) _____

17. Have you ever participated in FTC work activities in your PA?

1) Yes 2) No

18. If yes,

1. What was your contribution to FTC establishment and activities so far?

a) _____

b) _____

c) _____

2. On the other hand what did you get from FTC so far?

a) _____

b) _____

c) _____

19. If no, what was your reason for not participating?_____

20. If you need advice / information to overcome a farming problem whom do contact?

1) Your extension agent

2) Woreda agricultural office

3) Others (specify)

21. How do you contact the officer when you need information?

1) Telephone call 2) Letter 3) Contact him at the office

22. What do you know about FTC?

_____

_____

Section Two: Participation and position in rural institutions/organizations

23. Indicate the organization in which you are a leader/member

Organization name	**Member**		**Leader/management member**	
	Yes(√)	**No(√)**	**Yes(√)**	**No(√)**
1. Development group				
2. PA/Got Food security task force				
3. Model farmer				
4. Farmer Research Group				
5. Cooperative				
6. Women affairs				
7. PA council				
8. youth association				
9. Member of political Party				
10. Other (specify)				

24. Have you ever attended any course offered by your extension agent?

1) Yes 2) No

25. Why have you never attended any course?

1. Schedule/ Inappropriate timeliness _____
2. Labor shortage _____
3. Lack of time _____
4. Topics are not need based _____
5. I did not receive an invitation or notice on time _____
6. Agents lack expertise and experience _____
7. Other (specify)

26. In your own opinion, do you think training of farmers at FTC is important?

1,Yes = 1 2. No = 2

27. If yes or no, please explain your answer?

_____

_____

28. Which of the following you think are used as the criteria for trainees' selection?

8. Friendship based

9. Blood relation based
10. Biased towards educated farmer
11. Model farmer focused
12. Political tie focused
13. Rich farmers
14. Other (include it)

29, In your opinion, how would you sum up the overall extension delivery system within FTC institution? Provide a rating from 1 to 5, using the following scale:

No	Items for assessment /statement	1	2	3	4	5
		Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
1	FTC is reaching and being understood by the intended participant groups					
2	The services given by FTC are not demand-driven					
3	Information at FTC helps to sell our produce at a reasonable price					
4	The extension agents in FTC are highly motivated to serve farmers					
5	The DAs in FTC are well experienced in matters of farming practices					
6	Extension agents teach farmers on technologies which we cannot apply in practice					
7	DAs do not make daily trips to their assigned FTC, and difficult to see them					

30. What would you suggest FTC change in the future?

Appendix 3. Self-Administered Questionnaire for Extension Agents at FTC

Personal and demographic information

Section One: Personal Profile

1. Name of DA _____

2. Age _____

3. Sex: Male _____ Female _____

4. Marital Status

1) Married 2) Single 3) Divorce 4) Widowed

5. Education level

1) Certificate 2) Diploma 3) Degree

6. Field of Study?

1) Plant science 2) Animal science 3) Natural science 4) Animal health

5) Cooperative 6) other (specify)

7. Work experience in agricultural sector _____ years.

8. Currently are you working with your profession?

1) Yes 2) No

9. Family residence (the family you are currently living with)?

1) Urban 2) Rural

10. What is your family (parents) major background or occupation?

1) Farming 2) urban dweller 3) Trade 4) Civil servant 5) other (specify)

11. Why did you join Agricultural extension organization? Because:-

1. I had highest interest to serve rural people.
2. Lack of other job opportunities.
3. My grade point did not allow me to join university at that time.
4. I was forced to enter ATVET by a quota due to lack of other choice.
5. Others (specify)

12. Indicate the field of education that you are attending privately for further profession and the condition on which you are know

1. Distance learning on the field of 1) Agriculture 2) Management 3) Accounting 4) Economics 5) Other (specify)
2. I have already finished and have 1. Diploma 2. BA Degree
3. I am searching for another job rather than agriculture.

4. Other(specify)

13. Do you perform non educational work activities?

1. Yes 2. No

14. If yes, how much of your time do you spend for non- educational activities?

1) Quarter 2) half 3) Three fourth 4) none at all

15. If you are spending some of your time for non-educational work activities, what were the influences on your normal extension educational activities?

A) _____ c) _____

b) _____ d) _____

Part Two: Organizational Communication

16. How do you evaluate institutional communications between FTC and Woreda office of ARD? Rate on scale of 1-5

1) Very Poor 2) Poor 3) Good 4) Very good 5) Excellent

17. What are the forms of communication that you mostly use in delivering messages?

1) Verbal 2) written 3) group discussion 4) meetings 5) on farm visit 6) home visit

Part Three: Number of Extension Personnel

18. How many extension agents exist at present in this FTC?

1) One 2) Two 3) Three 4) More than three

19. Do you think the extension agents were assigned according to the required profession?

1) Yes 2) No

20. Is the number of extension agents sufficient to perform the job? 1) Yes 2) No

Part Four: Quality of College Education

21. How was the relevancy of the Diploma or Degree program that you obtained in performing your job? Rate on scale of 1-5

1. Not at all relevant
2. Not relevant
3. Somewhat relevant
4. Relevant
5. Very relevant

22. Have you been trained on how to teach or train farm households?

1. Yes = 1 2. No = 2

23. If the above answer is no, what should be done to improve the situation?

_____

_____

Part Five: Availability of different infrastructures and resources at FTC level?

24. Name of the FTC_____

25. Year of establishment _____

26. Current status: a) fully functional b) semi functional c) non functional

27. How many farmers were benefited from the different services of the FTC since its establishment?

No.	Types of services given	No of beneficiaries			Remark
		Male	Female	Total	
1	Short term training				
2	Modular training				
3	Advisory service				
4	Regular extension service				

28. Did the FTC have the following basic training infrastructure and resources? Please rate the quality and performance of the available infrastructures and resources on scale of 1-5 on space provided

No	Facilities	Yes	No	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent
1	All weather road							
2	Class room							
3	Demonstration site							
4	Power/ Electricity							
5	Exhibition hall							
6	Metrology station							
7	Office							
8	Residence							
9	Store							
10	Telecommunication							
11	Toilet							
12	Water supply							

13	Workshop							
14	Revenue-generating Demonstration Fields							
15	TV and video							

Part Six: Training Curriculum and lesson plan preparation

29. Do you have a training curriculum in your FTC?

1) Yes 2) No

30. If you have, who prepared the training curriculum?

1) Federal MOARD 2) Amhara ARDB 3) Zonal ARD 4) Woreda ARDO 5) other [specify]

31. How do you evaluate the training curriculum in connection to the context of your area?

1) Excellent 2) very good 3) good 4) poor 5) It is not prepared to our context

32. If you don't have training curriculum how do you train farmers in FTC?

a) _____

b) _____

Part Seven: Incentives

33. How do you rate the incentive provision, salary payment and promotion venue of your organization?

No	Type	1	2	3	4	5
		Very poor	poor	Good	Very good	Excellent
01	Incentive provision					
02	Career offers benefits					
03	Promotion avenue					
04	award program					

Part 8. Training for development agents

34. Is there any training provision for extension personnel's working in FTC?

1) Yes 2) No

35. How many training in all did you attended in the last two years?

1) One time 2) two times 3) three times 4) four times 5) not all

36. Indicate the relevance of the training to your activities?

1. Not at all relevant 2. Not relevant 3. Some what relevant 4. Relevant 5. Very relevant

37. **Performance of Field Extension Staff**

Do you recognize and/or remunerate high levels of performance on the part of the extension field staff? Yes _ No _ If yes, how?

_____

Part 9. Budget

38. Do FTCs have adequate annual budget for their operation?

1. Yes 2. No

39. What is the annual budget of FTC you are serving? _____

40. Do you have other source of fund other than government budget?

1) Yes 2) No

41. If yes, what were other sources of fund and their amount?

No	Source of funding	Amount in birr/ year
1	Community contribution	
2	Donation from NGOs	
3	Sales from demonstration output	
4	Others (specify)	

42 Do you think the budget allocated to you is enough to carry out the training program and other mandatory roles of FTC?

1) Yes 2) No

43. If no, how do you carry out the training program and other FTC activities?

_____

_____

_____

Part 10. Institutional Linkages and Partnerships

44. Please characterize the active linkages your FTC has had with the organizations listed here. Provide a rating of 1 to 5, using the following scale:

organization	1	2	3	4	5
	No Linkage	Weak	Moderate	Strong	Very Strong
1. Agricultural research organizations					
2. Private sector input supply firms					
3. ATVET colleges					
4. NGOs involved in extension					

activities					
5. District or local government agencies					
6. micro-credit institutions					
7. Private sector markets or exporters					
8. Cooperative					
9. Other public/semi public extension organizations; specify or attach details					

comments_____

45. Overall, what do you think about co-ordination of different organizations in the development and ongoing activities of FTC? Provide a rating from 1 to 5, using the following scale:

organization	1	2	3	4	5
	very poor	poor	satisfactory	good	excellent
1. Research centers					
2. Co-operatives					
3. Input supplier					
4. NGOs					
5. Investors					
6. Woreda ARD					
7. others/ specify					

Comments_____

Part 11. Demonstration Field

46. Are there enough demonstration fields for farmer's practical training?

1. Yes 2. No

47. If yes, how many hectares?

1) Less than one ha 2) 1-2 ha 3) 3 ha 4) 4 ha 5) greater than 4 ha

48. If no, how do you conduct practical training with farmers?

1. By taking them to the field of private farmers.
2. By taking them to nursery sites.

3. No other choice than theoretical teaching.
4. Other (specify)

49. If you use the above means, how far is the demonstration field from the FTC?

1. Less than one km
2. One km far
3. Two kms far
4. More than three kms

Part 12. Transportation facilities

50. Do you have transportation facilities to implement the mandatory roles of FTC?

1) Yes 2) No

51. If yes, what types of transportation do you have?

1) Bicycle 2) motor Bicycle 3) horse/ mule 4) others (specify)

52. If no, how do you serve your clients?

1) By going on foot
2) By private means of transport /bicycle
3) By Public transport
4) Others (specify)

53. Is your FTC accessible for transportation throughout the year?

1) Yes 2) No

Part 13. Training process and methods used

54. How do you assess the farmers' training needs in your area?

1. Talk to individual farmers 3
2. Address the farmers committee 2
3. Talk to leaders 1

55. What criteria do you use to identify courses for the farmers to train?

1. Suggest courses by yourself 1
2. Address the farmers committee 2
3. Do individual visits to farmers 3

56. To what extent are farmers involved in the identification of their training courses?

1. Not involved at all 1
2. To a less extent 2
3. To a fair extent 3
4. Fully involved 4

57. As an extension agent what is your feeling about the duration of courses delivered at Farmers Training Centre, is it:

1. Too short 1
2. Too long 2
3. Sufficient 3

58. To what extent when farmers who attended training courses contact you for further support after training?

1. Not at all 1
2. Don't no (can't re-call) 2
3. To a slight extent 3
4. To a fair extent 4
5. To a great extent 5

59. Please explain your answer for the question above by giving a possible reason for the farmers' reaction?

_____

_____

60. After how long do you visit farmers who have just been trained?

1. < 10 days 4
2. 11 – 20 days 3
3. 21 – 30 days 2
4. > 30 days 1

61. If you do visit farmers, what is usually the status of implementation for the new acquired knowledge or technology?

1) Positive 2 2) Negative 1

62. If negative, what are usually the reasons for non-practice or non-implementation of the acquired knowledge?

Part 14. Training materials

63. Do you have enough training materials in each fields of training in the centre?

1) Yes 2) No

64. If no, how do you carry out training to farmers?

a) _____ c) _____

b) _____ d) _____

65. Which fields of training materials are not adequate?

_____

_____

66. What are the problems related to training materials in FTC?

1) Lack of knowledge and skill how to use these materials

2) Lack of Knowledge how to develop these materials

3) Misuse / in efficient use of materials

4) Lack of electric power to use audio visuals 5) other (specify)

67. Do all courses have a well-established program per course for teaching different levels of farmers at FTC? 1) Yes = 1 2) No = 2

68. If not, does that have an effect on the relevancy of the material to be presented to the farmers?

1) Yes = 1 2) No = 2

69. If Yes or No, please explain your answer?

_____

_____

Part 15. Location of FTC

70. Do you think location of FTC affects its status / effectiveness?

1) Yes 2) No

71. If yes, how?

1. It is far away and not easily accessible.
2. Is reasonably near but not easily accessible.
3. Is near and easily accessible.
4. Very far although accessible by transport.

72. On average, how many kms far away are the beneficiaries of the FTC from their location?

1) 1-2 km 2) 3-4 km 3) 5-6 4) more than 7 km

73. In your opinion how much is that the location of FTC would influence farmers participation in training programs?

1) Very much 2) much 3) little 4) Not at all

Part 16. Monitoring and evaluation

74. How do you rate the monitoring and evaluation system of your organization?

1) Excellent 2) Very good 3) good 4) poor 5) not at all

75. Did your FTC has been monitored / evaluated by the following actors since the last 12 months?

Who monitor & evaluate?	Yes	No	How many times on average ?
1. Supervisor			
2. Woreda SMS			
3. Woreda management			
4. Zonal OARD			
5. Regional BARD			
6. Federal MOARD			
7. Other (Specify)			

Part 17. Political Commitment

76. Is there commitment and political willingness to make FTCs more operational in the side of administration at different level?

1) Yes 2) No

77. If yes what were these favorable conditions or supports?

_____

_____

_____

78. If no due to lack of support what problems did you encounter for implementing your plan effectively? How you solve the problems?

_____

_____

_____

Part 18. Community Participation

79. Is their Community Participation in FTC activities?

1) Yes 2) No

80. In your opinion, was the design and organization of the FTC participatory, managed by a small group or FTC management committee, or top down?

1. Don’t know [go to question 19]
2. Very participatory.
3. Managed by a committee but it was still participatory.
4. Managed by a small group but it was “top down”.

Part 19. Outcomes

81. In your opinion, is the FTC reaching and being understood by the intended participant groups? If yes, what evidence do you have for this?

_____

_____

82. Roughly what proportion of the intended participant groups do you think have been reached by the FTC?

1) Don't Know 2) Less Than 10% 3) About 25% 4) About 50%

83. Do you think their knowledge about the aim of FTC is now correct?

1) Yes 2) No 3) Don't know

84. Do you think they are now acting on this knowledge?

1) Yes 2) No 3) Don't know

85. In your opinion, over the last 6 months, what is the most significant change that has happened as a result of this FTC? Why is this significant? What difference has the change made already? What difference will it make in the future?

_____

_____

Part 20. Documentation of activities, efforts, and impacts

86. What type of documents do you have in your FTC?

_____

_____

87. Who use these documents? Its impacts to be mentioned

_____

_____

Part 21. General information

88. In what way do you think gender dimensions were addressed?

_____

_____

89. In what way do you think the needs of women were addressed?

_____

_____

90. In your opinion what are the major problems you found of FTCs'?

_____

_____

_____

_____

_____

91. How can we make the farmers training programs at FTC more effective?

_____

_____

_____

_____

92. From your experience and observation in your centre, what are the strengths, Weakness, opportunities and threats (SWOT analysis) of FTCS?

A) Strength

_____

_____

_____

_____

_____

B) Weaknesses

_____

_____

_____

_____

_____

C) Opportunities

_____

_____

_____

_____

_____

_____

D) Threats

_____

_____

_____

_____

93. Thinking about government facilities provided for your FTC, do you think your neighborhood gets better, about the same or worse facilities than other FTCs?

1) Better 2) About the same 3) Worse 4) Don't know

94. If better or worse, in your opinion, what do you think is the main reason why your neighborhood gets (better/worse) facilities?

_____

_____

95. Finally, if there were three key lessons for the future that you think have been learned from FTC establishment and activities what would they be?

_____

_____

_____

Thank you for completing this questionnaire on the performance of FTC in relation to its infrastructure, resources and extension activities.

Appendix 4. Self Administered Questionnaires for Zonal and Woreda Extension Personnel

1. General information

1.1 Name of respondent _____

1.2 Name of Organization _____

a) Region _____

b) Zone _____

c) Woreda _____

1.3 Date of interview_____

2. The current status of FTCs?

a. Name of FTC _____

b. Name of PA _____

c. Distance from Woreda town _____ km

d. Year of FTC establishment _____ E.C.

2.1. In your view what is the current status of FTC?

a) Functional b) semi-functional c) Non-functional

2.2. If semi or non functional why it is so happen?

_____

_____

2.3. FTCs which have fulfilled the necessary facilities for the training process

_____

_____

2.4. Indicate the availability of infrastructures and resources in the FTC

No.	Types of facilities	sufficient for effective functioning of FTC	
		Yes	No
1	Class room		
2	Office		
3	Store		
4	Exhibition hall		
5	Residence for DAs		
6	Toilet		
7	Meteorology	Available to some extent	
8	Blackboard		
9	Marketing center		
10	Clinic		
11	School		
12	Beehives		
13	Demonstration field		
14	Teaching aids		
15	Field equipments		
16	Seats for trainee		
17	Shelf		
18	Table		
19	Chair for DAs		
20	Television		
21	Computer		
22	Others/specify		

2.5. Number of staff members working in FTC, their qualification and experience

No	Staff members	Qualification	Experience	remarks

2.6. Is there housing facilities for all FTC staff members?

1. Yes 2. No

2.7. If no, how DAs can make daily trips to their assigned FTC and run their mandatory activities?

_____

_____

2.8. Please have your more say on the impact of the absence housing in limiting the time DAs spend in local communities working with farmers

_____

_____

3. Educational and Advisory Service Activities

3.1. Is there a regular training provision for the staff? 1. Yes 2. No

3.2. Farmers who have taken modular training since the establishment of the FTC ?

a. Male _____ Female_____ Total _____

3.3. Indicate the number of farmers who have taken short term training since the last two years in the FTCs.? Male_____ Female _____ Total _____

3.4. How many farmers were benefited from the different services of the FTC extension delivery system since its establishment?

No.	Types of services given	No of beneficiaries			Remark
		Male	Female	Total	
1	Short term training				
2	Modular training				
3	Advisory service				
4	Regular extension service				

3.5. List the courses commonly offered to farmers at the centers?

a) _____ d) _____

b) _____ _ e) _____

c) _____ f) _____

3.6. What is the most common duration of farmers training programmes at a center?

a) For modular training _____ (In days or hours)

b) For short term training _____ (In days or hours)

c) Is there any system developed for conducting training needs assessment before finalizing the content of training?

_____

3.7. Please write three major criteria by which farmers are selected for attending training at FTC?

a) _____

b) _____

3.8. Is training provided for women and youth?

Yes _____ No _____

3.8. What are the major problems (in order of importance) at FTC?

a) _____ e) _____

b) _____ f) _____

c) _____ g) _____

d) _____ h) _____

3.9. Is there an organized body who manage the activities and resources at FTC level?

1. Yes 2. No

4. Organizational Resources/Support Services

4.1. Who produces or carries out the following farmer training related activities?

a. Curriculum design _____ MOA_____

b. Text book preparation _____

c. Training aid materials _____

d. Lesson plan preparation___ Woeda Experts(extension communication and others) and DAS_____

4.2. Is there a permanent budget for FTC? Yes _____ No __no___

■ If no how the FTC can undertake its mandatory activities?

_____

_____Community contribution is for the guards wage_____

4.3. In your opinion, how closely did the implementation on the ground match with the FTC's implementation plan? Don't know [go to question 4.4]

Provide a rating from 1 to 5, using the following scale:

1	2	3	4	5

not closely at all	not closely	closely enough	very closely	extremely closely
Comment				

4.4. How can we make the farmers training programmes at FTCs more effective?

a) _____

b) _____

c) _____

d) _____

4.5. Should the government alter the way FTC currently operates**?**

- If yes, how?
- If no, why do you say so?

4.6. What could be done to maximize positive FTC impacts for individuals?

- By government? regulations, etc
- By businesses?
- By the community?

_____

_____

4.7. What do you see about the future of the FTC institution?

- Example current plans for development?
- Future development possibilities?

_____

_____

_____

4.8. Do you think that DAs are typically allocating more time to non-extension tasks such as regular local government administrative functions, commercial activities, and others—than to direct farmer services A) Yes b) No

4.9. In your opinion, is the FTC reaching and being understood by the intended participant groups? If yes, what evidence do you have for this?

_____

_____

__

4.10. What evidence do you think shows the FTC is leading to desired outcomes?

_____

_____

5. From your experience and observation in your Woreda/ region what are the strength, weakness, opportunities and threats (SWOT analysis) of FTCs?

Strengths

a) _____

b) _____

c) _____

Weaknesses

a) _____

b) _____

c) _____

Opportunities

a) _____

b) _____

c) _____

Threats

a) _____

b) _____

c) _____

6. Any other suggestions for managing programs conducted at FTCs?

a. _____

b. _____

c. _____

7. How do you feel about the role of FTC in the transformation of agriculture?

- Benefits / Why do you think so?
- Problems/ Why do you think so?
- Concerns/ Why do you think so?

_____

_____

8. What do you think of the future status and the functions of FTC?

Would you like to see it increase or Decrease?

- If yes, why do you say so?
- If no, why do you say so?

_____

_____

_____

9. Is there an organized body for Monitoring and evaluation of FTC activities?

_____

_____

10. Finally, if there were three key lessons for the future that you think have been learned from FTC establishment and activities what would they be?

_____

_____

Appendix 5. Questionnaires for Group Discussion with FTC and kebele Leader; Youth Association; Kebele Manager; FTC Representative DA; Women's Association Representative; Surrounding School and Health Representatives

Name of FTC_____

Date of discussion_____

Please discuss the following:

1. What important differences do you generally notice between trained and untrained farmer?
2. How does FTC education bring about changes in the way people think, feel and act? Well equipped, professionally assignment of DAs, consistent close supervision and evaluation, provision of technological inputs as seed, fertiliser, handtools, computer, Satellite dish etc
3. What skills do you expect the participants to acquire when they attend a FTC training programme? Integration of theory and practice, conduct demonstration day at farmers and model farmers, experience sharing, adult literacy expansion.
4. Why are training programmes and activities important especially for girls and women? Horticulture, poultry. Beekeeping,
5. What is the importance of training and educating women in FTC? To improve their lives, income generation, participation, decision making, empowerment
6. In your opinion, what are the successes of the FTC extension delivery? How sustainable are these successes? Refer the above
7. What are the strong points of FTC's?
8. What would you suggest FTC change in the future?

9. In your opinion, is political support for the FTC continuing? If not, how can it be revived?

10. How is future resource needs and management system of FTCs being met?

Appendix 6. Self Administered Questionnaires for Zonal and Woreda Extension Personnel

1. General information

1.1 Name of respondent _____

1.2 Name of Organization _____

d) Region _____

e) Zone _____

f) Woreda _____

1.3 Date of interview_____

2. The current status of FTCs?

e. Name of FTC _____

f. Name of PA _____

g. Distance from Woreda town _____ km

h. Year of FTC establishment _____ E.C.

2.1. In your view what is the current status of FTC?

a) Functional b) semi-functional c) Non-functional

2.2. If semi or non functional why it is so happen?

_____

_____

2.3. FTCs which have fulfilled the necessary facilities for the training process

_____

_____

2.4. Indicate the availability of infrastructures and resources in the FTC

No.	Types of facilities	sufficient for effective functioning of FTC	
		Yes	No
1	Class room		
2	Office		
3	Store		
4	Exhibition hall		

5	Residence for DAs		
6	Toilet		
7	Meteorology	Available to some extent	
8	Blackboard		
9	Marketing center		
10	Clinic		
11	School		
12	Beehives		
13	Demonstration field		
14	Teaching aids		
15	Field equipments		
16	Seats for trainee		
17	Shelf		
18	Table		
19	Chair for DAs		
20	Television		
21	Computer		
22	Others/specify		

2.5. Number of staff members working in FTC, their qualification and experience

No	Staff members	Qualification	Experience	remarks

2.6. Is there housing facilities for all FTC staff members?

1. Yes 2. No

2.7. If no, how DAs can make daily trips to their assigned FTC and run their mandatory activities?

_____

_____

2.8. Please have your more say on the impact of the absence housing in limiting the time DAs spend in local communities working with farmers

_____

_____

3. Educational and Advisory Service Activities

3.1. Is there a regular training provision for the staff? 1. Yes 2. No

3.2. Farmers who have taken modular training since the establishment of the FTC ?

b. Male _____ Female_____ Total _____

3.3. Indicate the number of farmers who have taken short term training since the last two years in the FTCs.? Male_____ Female _____ Total _____

3.4. How many farmers were benefited from the different services of the FTC extension delivery system since its establishment?

No.	Types of services given	No of beneficiaries			Remark
		Male	Female	Total	
1	Short term training				
2	Modular training				
3	Advisory service				
4	Regular extension service				

3.5. List the courses commonly offered to farmers at the centers?

d) _____ d) _____

e) _____ _ e) _____

f) _____ f) _____

3.6. What is the most common duration of farmers training programmes at a center?

d) For modular training _____ (In days or hours)

e) For short term training _____ (In days or hours)

f) Is there any system developed for conducting training needs assessment before finalizing the content of training?

_____

3.7. Please write three major criteria by which farmers are selected for attending training at FTC?

c) _____

d) _____

3.8. Is training provided for women and youth?

Yes _____ No _____

3.8. What are the major problems (in order of importance) at FTC?

e) _____ e) _____

f) _____ f) _____

g) _____ g) _____

h) _____ h) _____

3.9. Is there an organized body who manage the activities and resources at FTC level?

1. Yes 2. No

4. Organizational Resources/Support Services

4.1. Who produces or carries out the following farmer training related activities?

e. Curriculum design _____ MOA_____

f. Text book preparation _____

g. Training aid materials _____

h. Lesson plan preparation___ Woeda Experts(extension communication and others) and DAS_____

4.2. Is there a permanent budget for FTC? Yes _____ No __no___

- If no how the FTC can undertake its mandatory activities?

_____

_____Community contribution is for the guards wage_____

4.3. In your opinion, how closely did the implementation on the ground match with the FTC's implementation plan? Don't know [go to question 4.4]

Provide a rating from 1 to 5, using the following scale:

1	2	3	4	5
not closely at all	not closely	closely enough	very closely	extremely closely
Comment				

4.4. How can we make the farmers training programmes at FTCs more effective?

e) _____

f) _____

g) _____

h) _____

4.5. Should the government alter the way FTC currently operates**?**

- If yes, how?
- If no, why do you say so?

4.6. What could be done to maximize positive FTC impacts for individuals?

- By government? regulations, etc
- By businesses?
- By the community?

_____

_____

4.7. What do you see about the future of the FTC institution?

- Example current plans for development?
- Future development possibilities?

_____

_____

_____

4.8. Do you think that DAs are typically allocating more time to non-extension tasks such as regular local government administrative functions, commercial activities, and others—than to direct farmer services A) Yes b) No

4.9. In your opinion, is the FTC reaching and being understood by the intended participant groups? If yes, what evidence do you have for this?

_____

_____

__

4.10. What evidence do you think shows the FTC is leading to desired outcomes?

_____

_____

5. From your experience and observation in your Woreda/ region what are the strength, weakness, opportunities and threats (SWOT analysis) of FTCs?

Strengths

d) _____

e) _____

f) _____

Weaknesses

d) _____

e) _____

f) _____

Opportunities

d) _____

e) _____

f) _____

Threats

d) _____

e) _____

f) _____

6. Any other suggestions for managing programs conducted at FTCs?

d. _____

e. _____

f. _____

7. How do you feel about the role of FTC in the transformation of agriculture?

- Benefits / Why do you think so?
- Problems/ Why do you think so?
- Concerns/ Why do you think so?

_____

_____

8. What do you think of the future status and the functions of FTC?

Would you like to see it increase or Decrease?

- If yes, why do you say so?
- If no, why do you say so?

_____

_____

_____

9. Is there an organized body for Monitoring and evaluation of FTC activities?

_____

_____

10. Finally, if there were three key lessons for the future that you think have been learned from FTC establishment and activities what would they be?

_____

_____

Appendix 7: Interview schedule for in-depth interviews with key informants (kebele and FTC leader, kebele manager, trained and untrained male and female farmers (4); one male and female from technology users and participants in FTC activities (2))

General

Name of FTC _____

Date of interview_____

1. Can you tell me what does FTC means to you?

- Are you involved in the establishment/construction of FTC and why do you become involved in it?

2. How do you feel about the role of FTC in your PA?

- Benefits / Why do you think so?
- Problems/ Why do you think so?
- Concerns/ Why do you think so?

3. What are the strong and weak points of FTC extension delivery system?

4. Do you recognize and/or remunerate high levels of performance on the part of the extension field staff? Yes _ No _ If yes, how?

5. What do you think of the future status and the functions of FTC?

Would you like to see it increase or Decrease?

- If yes, why do you say so?
- If no, why do you say so?

6. In your opinion, is political support for the FTC continuing? If not, how can it be revived?

7. What would you suggest FTC change in the future?

8. Should the government alter the way FTC currently operates?

- If yes, how? If no, why do you say so?

9. What could be done to maximize positive FTC impacts for individuals?

- By government? regulations, etc
- By businesses?
- By the community?

10. How can you judge the coordination of activities between DAs, administrators and stakeholders in the FTC?

11. How is future resource needs and management system of FTC being met?

12. Any other suggestions for managing the FTC?

Appendix 8. Socio-Economic and Demographic Characteristics of Respondents (n=100)

Category	Trained		Untrained		Total
	N	%	N	%	%
Age in years					

<25	13	26	3	6	16
26-45	28	56	22	44	50
46-60	9	18	13	26	22
>60	0	0	12	24	12
Educational level					
Cannot read and write	12	24	16	32	28
Able to read and write	13	26	18	28	31
Primary school (1-4)	17	34	12	24	29
Secondary school (5-8)	8	16	4	8	12
Family size					
• < 3	13	26	9	18	22
• 3-6	27	54	24	58	51
• >6	10	20	13	26	23
Land holding in ha					
• <0.75	27	54	32	64	59
• 0.75-1.5	11	22	4	8	15
• 1.5-2	12	24	14	28	26
• >2	-	-	-	-	-
Experience in farming					
• <11	13	26	7	14	20
• 11-30	29	58	24	48	53
• 31--50	8	16	7	14	15
• >50	0	0	12	24	12
Distance from residence					
• <1	24	48	12	24	36
• 1-1.5	15	30	17	34	32
• >1.5	11	22	21	42	32

Source: own survey