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DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

PROBLEMS AND EFFECTIVENESS OF FARMERS` TRAINING CENTERS IN SOUTHERN ETHIOPIA, THE CASE OF ARBEGONA WOREDA, SIDAMA ZONE

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As Thesis Research advisor, I hereby certify that I have read and evaluated this thesis prepared under my guidance by Hailu Amaje Banata, entitled **"The Problems and Effectiveness of Farmers` Training Centers in Southern Ethiopia, the Case of Arbegona Woreda, Sidama Zone, ''** I recommend that it can be submitted for examination to fulfill the requirement for the degree of Master of Science in Land Resource Management.

ABERA UNCHA _____ _____

Advisor Signature Date

DEDICATION

I dedicated this thesis manuscript to my mother Bula Dale. She laid the foundation of all of my life at my early stage of childhood and brings me up to this point of academic success.

DECLARATION

First of all, I declare that this Thesis is my work and that all sources of materials used for this Thesis have been acknowledged and referenced in the text. This thesis has been submitted in partial fulfillments of the requirements for an M.Sc degree at the Arbaminch University and is deposited at University Library to be made available to borrowers under rules of the Library. I also declare that this thesis can be submitted to any other institutions anywhere for the award of any academic degree, diploma, or certificate, if the University found it necessary.

HAILU AMAJE

Signature _____

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ADLI	Agricultural Development Led Industrialization
ATVET	Agricultural Technical Vocational Education and Training
BoARD	Bureau of Agriculture and Rural Development
CADU	Chilalo Rural Development Unit
DAs	Development Agents
FAO	Food and Agricultural Organization
FGDs	Focus Group Discussions
FMPTC	Farmers Multipurpose Training Center
HHs	Households
IFPRI	International Food Policy Research Institute
FTCs	Farmers` Training Centers
MoA	Ministry of Agriculture
MoARD	Ministry of Agriculture and Rural Development
MoI	Ministry of Information
PASDP	Plan for Accelerated and Sustainable Development to end Poverty.
SPSS	Statistical Package for Social Science
SNNPR	Southern Nations Nationalities and Peoples Region
SWHISA	Sustainable Water Harvesting and Institutional Strengthening in Amhara
VEW	Village Extension Worker
WADU	Welaita Rural Development Unit

PROBLEMS AND EFFECTIVENESS OF FARMERS` TRAINING CENTERS: THE CASE OF ARBEGONA WOREDA, SIDAMA ZONE, SOUTHERN ETHIOPIA

BY: HAILU AMAJE

ABSTRACT

The current concerted efforts of Ethiopian government for the establishment of farmers` training centers in every peasant associations is an emerging agricultural extension strategy aiming at developing human capital through training to enhance farmers' knowledge and practical skills for improving agricultural production and productivity. However, the present status and performance of farmers` training centers and the constraints that hinder farmers` training centers in effective functioning of modern ways of farming system have not been studied empirically and assessed in depth for taking appropriate action in time. This study was conducted to assess the current performance of farmers` training centers in relation to its structure and function, to examine the community participation on farmers` training centers based activities, to identify opportunities and constraints of farmers` training centers and to analyze the relevance and effectiveness of farmers training center based training. The study was based on descriptive survey design encompassing both qualitative and quantitative data and multi-stage sampling procedure was employed to select the sample. A total of 128 sample respondents and 12 DAs working in farmers` training centers were selected. Interview schedules, focus group discussions, key informant interviews and personal observations were conducted for quantitative and qualitative data collection. The data were analyzed by using simple descriptive statistics such as percentage, frequency, tables and charts. Qualitative data were analyzed through interpretation and conceptual generalization. The findings of this study indicate that all sample farmers training centers do not fulfilled by the necessary facilities and teaching materials. There are social, institutional and economical problems that hinder the performances of farmers training centers. The woreda bureau of agriculture and rural development and every concerned stakeholder should take into consideration the institutional, social and economic constraints affected the effective functioning of farmer training centers.

Key words: Problems, Farmers` Training Centers, Statistical Package for Social Sciences software.

CHAPTER ONE

1. Introduction

The agricultural sector is crucial to rural development and contributes significantly to any initiative to alleviate poverty. For this reason there is a great need for strong extension and services led by government's operations in partnership with relevant role-players (DoA, 2005). Agricultural extension by its nature has an important role in promoting the adoption of new technologies and innovations (Jamilah et al., 2010). It brings about changes through education and communication in farmers attitude, knowledge and skills. The role of agricultural extension involves dissemination of information; building capacity of farmers through the use of a variety of communication methods and help farmers make informed decisions (Sinkaiye, 2005).

In agricultural extension delivery systems, effective training is expected to change the knowledge, attitude and practices of a trainee. The aim of training is three folds: to provide workers with the appropriate tools, which include both conceptual and technical issues to carry out their work more effectively; to make them aware of recent comparative developments within their field of interest; and to open up alternative ways of thinking and implementing social development programs. Training thus combines holistic approaches in attempt to provide access to and interpretations of current information (Adesoji et al., 2006) .

Since the 1960s, Ethiopia has been experimenting with different agricultural extension programs (e.g. CADU and WADU projects). These extension approaches have been pushing in one way or another for increased use of chemical fertilizers to increase crop yield. In mid-1990s a new agricultural extension package program was introduced as the country's main development strategy. Its features include: (1) package orientation; (2) stress on increased use of chemical inputs and (3) increased deployment of extension personnel (Abeje, 2009).

As the rural development policy and strategy document, one of the major ways of implementing modern farming methods through extensive utilization of human labor is by motivating the human labor in agriculture through agricultural education and training. Though there has been an increasing wide coverage of primary education in the rural areas still farmers have no access to

use modern technologies, which would enable them to bring about the expected rural transformation (MoA, 2000).

Realizing the situation, the government had started FTCs programs, and planed to establish about 15 thousand FTCs throughout the country to enhance the knowledge base of farmers and to provide the institutional framework for increasing the efficiency and effectiveness of agricultural advisory services. Almost every woreda in the country has been constructing FTCs; and some woredas have already constructed the required number of FTCs. About 8,500 FTCs have been built so far and about 45,000 DAs are engaged as service providers in these FTCs (MoARD, 2009b).

The FTCs were constructed with the participation of the farmers and expected to serve as centers of extension service and information, places where modular training to farmers from three up to six months to be given, fields of demonstration. FTCs also serve as sources of advice for the transfer of improved technologies, knowledge acquisition, and area of linkage between researchers and technology users and other institutional support services (Birhanu et al., 2006).

Each FTC is to be staffed by three DAs (one each in the area of crops, livestock, and Natural Resources Management) and supported by an itinerant DA covering three FTCs and trained in cooperatives management or a related field. Each DA is expected to train 60 farmers every six months and 120 farmers per year in his or her field of specialization (Spielman et al. 2006). The syllabus would give more emphasis on practical where trainees would learn by doing rather than classroom learning. With regard to the extension service it is envisaged that all farmers have access to agricultural extension services during the PASDEP period (MoARD, 2006 as cited in Fisseha, 2009).

In SNNPR 2789 FTCs were established from the expected 3760 FTCs and from those established FTCs, 1658 started to deliver the extension service for the farmers. To support rural population whose livelihood activity is agriculture, 10,873 males and 1,452 females, totally 12,325 extension agents including animal health and breading technicians and cooperatives were assigned in each kebeles in the region (BoAD, 2012)

The establishment of FTC program in study area was started in 2004. As the information taken from Arbegona woreda office of Agriculture and Rural development, currently there are 36 FTCs

in the woreda. However, the present status and performance of FTCs to achieve effective agricultural development has not been assessed and evaluated so far in this study area. In such context, the idea of this research was needed. Therefore, this study was carried out in investigating the problem and effectiveness of farmers` training centers to achieve agricultural development by enabling the farmers to use modern agricultural technologies and to be skill full and knowledgeable to modern way of farming system.

1.1 Statement of the Problem

To increase production and productivity, farmers need to have trainings. Formal, non-formal and informal trainings are equally important. But, farmers have opportunity to learn non-formal trainings at their farming community through different training programs. Aiming this fact, the government has been made potential development instruments including modular trainings at FTC level. Extension agents were trained at Agricultural Technical Vocational Education and Training (ATVET) Colleges, Farmer Training Centers were established, training modules and texts have been prepared and some other progresses were achieved (BoARD, 2007).

According to Ousman (2007), at various levels and with different responsibilities in the Ministry of Agriculture (MoA) in Southern Nations Nationalities and Peoples Region (SNNPR), one of the major problems recognized is lack of an effective training system in which trainings are undertaken effectively and efficiently. This refers to training process that is directed to the client problems and improvement of job performance which is implemented under conducive learning situations and a process in which results and impacts are measured, reviewed and/or improved through participation of the concerned stakeholders.

Fisseha (2009) had found that, from the total envisaged establishment of the centers in each peasant association, at the end of tenth year of the plan, only 8,500FTCs have been established throughout the country and some of them have started functioning, although their current status is not known. According to this author, in spite of the presence of nearly 45,000 extension agents, the level of their involvement in the training of farmers in the FTCs is not fully known. The favorable opportunities that are conducive for their implementation and the constraints that hindered the implementation of FTCs were not well assessed.

In the study area, there are 36 farmers training centers were established in every peasant association. However, their present status and problems in effective functioning, the situations of each FTC with respect to the training offered in terms of content, methodology of delivery, training subject matter with respect to the demands of the direct beneficiaries has not been systematically assessed so far.

Therefore, in view of the above statements, this research focuses on the assessment of the problems and effectiveness of FTCs that are influencing their training programs and an attempt to assess the present status of farmers training centers (FTCs), their opportunities and constraints including the operational difficulties faced by the farmers and the extension staff in effective functioning.

1.2 Objectives of the Study

1.2.1 General Objective

The overall objective of this study is to assess the performance of Farmers` Training Centers in relation to its structure and function.

1.2.2 Specific objectives

In line with the general objectives, the specific objectives of the study were to:

1. Assess the current capacity and performance of FTCs in the study area,

2. Assess the community participation on FTCs based activities,

3. Identify the major opportunities and constraints of FTCs in the study area,

4. Analyze the relevance and effectiveness of FTC based training;

1.3 Research questions

The study will answer the following research questions:

- What is the present status of FTCs in relation to its performance and functioning?
- How do the Community Participate in FTC activities?
- What are the opportunities and constraints of FTCs in the study woreda?
- What is the relevance and effectiveness of FTC based training?

1.4 Significance of the Study

Agriculture is the most important sector of Ethiopian economy, and is mainly dependent on traditional farming. Doing all possible efforts to eradicate agricultural problem is therefore, not an assignment to be left for tomorrow. In this regard, assessing the organizational issues and constraints related to farmers training, has significant contribution in pin-pointing areas that need attention for future improvement. This study may serve as a primary source of empirical information on the problems and effectiveness of FTC program in promoting agricultural improvement of farm families. Its findings might be of significant importance to government and other concerned bodies working with FTCs to realize agricultural improvements. Specifically it:

- ✓ Would assist FTCs itself to identify the constraints and find measures to improve their performance.
- ✓ May contribute to the better understanding of the woreda Agricultural and Rural Development Office personnel and field workers about the FTCs constraints and problem in training farmers
- ✓ Will provide first hand information to the government and Non-government organizations about the status and performances of FTCs on agricultural development.
- ✓ Will also be useful for giving understanding FTC based extension approach and for appropriate action to adjust the strategy of extension service in rural areas.
- ✓ Will generate feedback from policy makers and development practitioners so as to make the training process demand driven and effective.
- ✓ Will serve as stepping stone for prospective researchers who may be interested in further and deeper study in the same area or related areas because this study is the first of its kind in the woread.

1.5 Scope and Limitations of the Study

The study was conducted in Arbegona Woreda, Sidama Zone, Southern Ethiopia. Besides the scope of the area, the study focused only on farmers training centers regarding to current status, constraints, significances and effectiveness of FTCs based trainings that delivered at FTC level. As such, the research does not claim to provide conclusive findings on FTCs based trainings in region and countries. However, the research findings can be used to raise awareness among

different stakeholders and also serve as background information for others who seek to do further research and will serve in formulating and revising agricultural extension strategies in the region as well as other places with similar socio-economic situations.

Due to resources and time limitations, this study was restricted to a total of four kebeles FTCs of Arbegona woreda and limited 128 sample respondents, 12 DAs and 6 SMSs to justify the objectives of the study. The researcher also faced a problem in getting extension agents of some FTCs to fill questionnaires due to the tendency of expecting more payment and fear of giving information. Since most respondents were not educated, data gathering through scheduled interview has taken much time. Lack of access of transportation to far kebele FTCs was also another problem which limited the researcher to assess the status and to cover all FTCs on time.

1.6. Organization of the Thesis

This thesis is organized categorically as front matters, the body and the back matters .The front matters included all formal elements such as cover pages, acknowledgement, declaration, table of contents and list of tables and figures, acronyms, abstract etc. The first chapter deals with the introduction, statement of the problem, objectives, significant of the study and scope and limitations of the study. Chapter two reviews literature related to the research topic.

The third chapter is included the methodologies:-description of study area, method of data collection and analysis, and the fourth chapter presented the results of the study and their interpretation. The final chapter summarizes and concludes the major findings, recommendations and the way forward for the future research. The back matters include annexes. Here the questionnaires and interview schedule and checklist for focus group discussion, etc are annexed.

1.7 Operational Definition of Key Terms

Problem: Problem is a hindrance which makes it difficult to achieve a desired goal, objective or purpose. It refers to state of difficulty that needs to be resolved.

Effectiveness: Effectiveness refers to the degree to which development policies, programs, and projects meet their stated goals and objectives. It is defined as the ability of the organization to be mobilized to meet the demands in the areas of production, adaptability and flexibility.

Farmers` Training Centers: According to FTC operational manual, it is training and information institution that serve as focal point for agricultural development activities within a certain rural kebele administration and that provide various training to farmers.

Functional FTCs: In this study functional FTCs are defined not only as those which have fulfilled the basic teaching materials, facilities, field equipments , but also those which have trained farmers at least one-two round in the past two years.

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

Resources: There are different materials such as sets for trainees, chairs, tables, shelves, field equipments and other facilities that are necessary for the teaching–learning process. The FTC which has fulfilled different internal facilities and field equipments will have better performance to carry out their duties.

Demonstration site: Demonstration site is the place where farmers visually see or practice that they have learned theoretically. An FTC which has enough demonstration fields (3-5ha) and also uses effectively, it is believed to show significant change in farmers` trainings and then the increase the farm productivity of the farmers.

Community participation: This is the active involvement of community from beginning up to evaluation of FTCs. In an FTC where the community participation is high the status of FTCs will be high. In poor community participation the status of FTCs will be poor.

Infrastructure facilities: Infrastructure includes different buildings and services found in the FTC like class rooms, offices, residence, exhibition center, workshop, clinic, telecenter, etc. **Teaching materials:** Teaching materials are teaching aids used during training to facilitate effective communication and learning. An FTC which has fulfilled appropriate teaching materials will have better status and show good results.

Budget allocation: This refers to integral components to an annual financial plan, or budget, of all organizations. In this study, this indicates the level of income/budget an organization is committing to the FTC program. An FTC which has a better status in budget allocation per year will have better status and good performance otherwise, it will be the reverse.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1 Overview of Emergency of Farmers` Training Centers in Ethiopia

Since agriculture is the backbone of the Ethiopian economy, Agricultural Development Led Industrialization (ADLI) strategy has been devised by the Federal Democratic Republic of Ethiopia (FDRE) based on which, the resources required for the expansion of the industry and other development sectors of the country can be obtained when agriculture's output and productivity reliably grow. To this end, the government is implementing a development strategy with the aim of changing the backward farm practices of the majority of small farmers and improves their living standards by boosting farm outputs and productivity as well as to bring a sustainable economic growth in the country (MoARD, 2009b).

One of the directions in the implementation of the development strategy is the establishment of Agricultural Technical and Vocational Training Colleges (ATVT) that train and provide skilled professionals who are assigned to work closely with farmers. For this, useful experiences from china, India and Indonesia are taken and implemented in consideration with the real condition of our country (MoARD, 2009b). Enormous public investment was made to establish twenty five junior Technical and Vocational Education and Training (TVET) colleges. ATVETs were primarily established to upgrade the educational level of 15,000 development agents (DAs) who were in the service to diploma level, and train about 60,000 new DAs at the same level (World Bank, 2006; Birhanu et al., 2006).

The second direction of the development strategy is the establishment and organization of farmers' training centers to provide training to farmers by the professionals that graduate from the colleges. The main reason for establishing farmers training centers is to produce skilled farmers that can transform the country's agricultural production from subsistence to market oriented production system, bring a sustainable economic growth by raising the sector's output and productivity and effectively use the natural resources of the country (MoARD, 2009b).

The MoARD's target for establishing FTC in every rural kebele, and training the required number of DAs and assigning three DAs, specialized in crop, livestock and natural resource management, to each FTC that had already been achieved in 2007 (Tesfaye, 2008).

Based on the project proposal of farmers training centers and the PASDEP document, the establishment of FTCs in each peasant association, has been under way since, the last five years throughout the country, aiming at training of farmers in different agricultural disciplines. A large number of extension agents/trainers of farmers have been graduated from ATVET colleges and they were allocated in rural areas. A working guideline and curriculum has been sent to regions for its execution based on their contexts (MoARD, 2008).

2.1.1. The Emergence of Farmer Training Centers in Ethiopia

The first Farmers Multi-purpose Training Center (FMPTC) of the country was established in the year 1980 at Agarfa in Bale, Oromia Region and the centers were set up in 2002 in each rural kebele, the lowest unit of administration in the country (Nigatu, 2010). Its main objective was the quick transfer of technology to the rural population so as to raise the quality of agricultural production, the living condition of the rural community and the country as a whole. This farmer training center was one among the anticipated five FMPTCs to be established in various administrative zones of the country. The FMPTC at Agarfa has the capacity to train 2,000 farmers at any one time (Zeleke, 2000).

Addis (1991; as cited in Luchia, 2010) indicated in his report as there were ten residential farmers training centers in the past military government. These FTCs were run by the training department of ministry of agriculture. They were, Agarfa MPTC, Asmara FTC, (now free sovereign country) Kombolcha FTC(Wollo),Wereta FTC,Holeta FTC ,Bako FTC ,Nejo FTC ,Welita FTC ,Bekoji FTC, Kombolcha FTC (East hararge).The smaller nine FTCs have a capacity of training 50-250 farmers in one intake. At present all of them have became ATVET colleges.

The above ten farmers training centers teaching is conducted by more staff members trained in training methods as compared to relatively the local extension assistants found in areas from which farmers came. They are well equipped to teaching learning purposes with the necessary accommodation, catering and teaching services.

All of them were fulfilled by many facilities. Training methods include 30 percent on theory and 70 percent of practical basis. The practical works were supported by using the demonstration plots available within the center and the nearby farms. The classroom instructors were facilitated with teaching aids. However, the problem with the residential farmers training centers in Ethiopia was not only that they were few in number when compare to the relative size of the farming population were supposed to serve but, also they were not in position to fulfill their role of accelerating agricultural production (Barwell, 1985 ; as cited in Lucha).

The current government opted for having FTCs in each and every kebeles, rather than havening limited residential FTCs as it was in the past. Hence, regional governments have committed themselves for the establishment of FTCs in some 15,000 Kebeles, the technical upgrading and expansion of front line extension agent to diploma level through ATVETs based training. 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. 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).

Addis (1991; as cited in Luchia, 2010), on the other hand, found major constraints of residential farmer training centers such as biases during selection of trainees which is exclusion of women in training, selection with personal relationship, trainings conducted so far were mostly not need based, deficiency of the training policy, lack in revision of curriculum, lack of coordination between farmers training centers and local extension service and also minimum consideration of evaluation.

Currently, there are about 8,500 FTCs established at the kebele level, with roughly 2,500 of these FTCs reported to be fully functional at the present time. In addition, there are about 45,000 DAs currently on duty at the kebele level, of whom about 14 percent are women, depending on the

region. The number of frontline extension personnel is expected to increase to roughly 60,000 when all FTCs have been established and are fully functional (MoARD 2009a).

Table 1: Estimated number of FTCs and DAs in Ethiopia

Farmer Training Center				Development Agents (DAs)		
Region	Required FTCs	Established FTCs	Functional FTCs	Male	Female	Total
Tigray	602	588	55	1879	188	2067
Oromia	6420	2459	1147	2980	1526	4506
Amhara	3150	1725	318	7532	2664	10196
SNNP	3760	1610	857	9707	1266	10973
Afar	558	263	103	528	220	748
Somali	302	152	62	1176	102	1278
Harari	17	5	3	47	5	52
Dire Dawa	25	7	7	73	15	88
Benshangul	54	54	54	485	192	677
Total	14888	8500	2606	38822	6178	45000

Source: (Kristin et al., 2009; as cited in Wuletaw, 2010)

FTCs at the kebele level were also identified as a critical resource needed to enable extension delivery. The FTCs were designed as local-level focal points for farmers to receive information, training, demonstrations, and advice, and included both classrooms and demonstration fields. The FTCs are expected to form an important node between extension and farmers in the agricultural sector (IFPRI, 2007). FTCs are managed at the kebele level, but funding for capital, operational, and salary costs come from the woreda level (MoFED, 2007).

2.1.2 Major Duties and Responsibility of the Centers

In Ethiopian situation, FTCs have many duties and responsibilities at a given community. Awareness creation of farmers can be created through agricultural package training at FTCs

level. Orientation about a given technologies, theoretical explanations, skill trainings and other types of meetings can be delivered in FTCs. Agricultural extension services, modular training that enable farmers to get "Green Certificate", market price information, knowledge sharing, counseling, advising services, permanent exhibition center, socio-economy data and demonstrating different improved agricultural technologies are the major functions that were supposed to organize in each FTC (Adebabay et al., 2008).

In addition, they provide training and consultation service to farmers to increase output and productivity and to promote market based production by effective utilization of natural resources. The training centers are also the sources of information regarding markets and prices for farmers' products and other information. In this regard, farmers training centers have an important role in implementing the on-going agricultural development strategy and rural extension program according to the plan, promoting the adoption of new technologies, changing the working culture and attitude of the society to improve the income and living standard of the rural community and to bring economic growth in the country (MoARD, 2009b).

Moreover, Birhanu et al.,(2006), noted that, FTCs are also expected to serve as hubs for the transfer of improved technologies, knowledge and skill development, and the provision of other institutional support services. Overall, FTCs are designed to provide extension services required for transforming agriculture from the current subsistence to market-oriented production system. Generally, Adebebey, and Sajja (2007) pointed out that FTCs assist farmers to make good decisions, leading to optional use of their resources and efficient use of water and other resources.

2.2. Farmers Training and Adult Learning

According to FAO (2008), training is a term which covers a wide range of activities. Training can be regarded as an age long concept which performs the therapeutic function of shaping knowledge, skill and attitude that are required for effective performance of duties and or assignment (Adisa and Okunade, 2005).

The training of people engaged in agricultural and community development programs aim at communicating information, knowledge and skills, replacing old attitudes by new ones, exchanging opinion and experiences, removing doubts and difficulties (Karnataka, 2009).

Farmer training is an education that most often takes place outside formal learning institutions. It differs from education in schools because it is geared towards adult learning ((Hassen and Amdissa, 1993; as cited in Biruk, 2010). The field of adult learning was pioneered by Knowles (Knowles et al., 2005). On the other hand, Stephen (2000), noted that, an effective training effort involves understanding how adults learn best.

Extension is an instrument that introduces improved cultural practices and new technologies to farmers after technology generation by research center. The contribution of extension service in dissemination of information and technologies may be influenced by a number of factors such as extension approach, policy, budget, infrastructure, extension program planning, extension monitoring and evaluation. Besides commitment of VEWs to work with farmers, number of contact, coverage and participation of farmers in extension program have significant role for technology dissemination (Alemayehu, 2008).

According to the rural development policies and strategy of Ethiopia (Fisseha, 2009), one of the major ways of implementing modern farming methods through extensive utilization of human labor is by motivating the human labor in agriculture through agricultural education and training. This method focuses on educating and training the agricultural labor and enabling them to use modern agricultural technology and techniques. It is a direction, which fully utilize all alternatives to enhance agricultural productivity per plot of land through the development of irrigation and highly valued agricultural outputs. It is trained human power centered productivity and technological development strategy.

The strategy further states that, in parallel to the efforts to be made to fully utilize the capacity of the uneducated farmer. We have to work hard to substitute the present farming generation by an educated one. An educated farming generation is the one that will obtain general education and therefore, will be able to read written notes and understand and implement new agricultural technology in a scientific way. This requires accomplishing at least the present elementary school education. However, this is not enough.

The farmer should obtain agricultural skill training both for their enhancement of knowledge and for improving their livelihood (MoA, 2001).

Training is used to improve the performance of individuals and social purposes in addition to get the job done effectively and for the improvement of productions (Pitchai, 2005). Adebebey, et al. (2008) pointed out that FTCs assist farmers to make good decisions, leading to optional use of their resources and efficient use of water and other resources.

Furthermore, training has additional benefits for moral building, individual motivation, financial gain, capacity to develop new technologies and methods, leads to higher productivity or profit, increase the quality of output and customer satisfaction and foster dynamic and forward looking. Training helps a business run better, adds flexibility and efficiencies in processes. Training is essentials for knowledge transfer, gives seasonal work and an investment in a company. It can also give a better service to clients (YICDOL, 2008).

2.2.1 Phases of Farmers Training

Training is a circular process that begins with needs identification and after a number of steps ends with evaluation of the training activity. A change or deficiency in any step of the training process affects the whole system, and therefore it is important for a trainer to have a clear understanding about all phases and steps of the training process. In the broadest view, According to FAO (2002), there are three phases of the training process: planning, implementation and monitoring and evaluation phases.

(a) Planning Phase

The planning phase contains several activities. Training need assessment and curriculum development are very important steps of this phase. Training need is a condition where there is a gap between ‘‘What is” and ‘‘What should be” in terms of incumbents’ knowledge, skill, attitude and behavior for a particular situation at one point in time. Training need identification is possible through different analytical procedures. The possible methods for individual analysis include performance appraisal, interviews, and questionnaires, analysis of behavior, informal talks, checklists, counseling, recording, surveys and observations.

Curriculum development is also the most important part in a training program after a need for training has been identified. The curriculum specifies what and how it should be taught (Swanson et al., 1998; as cited in wuletaw, 2010).

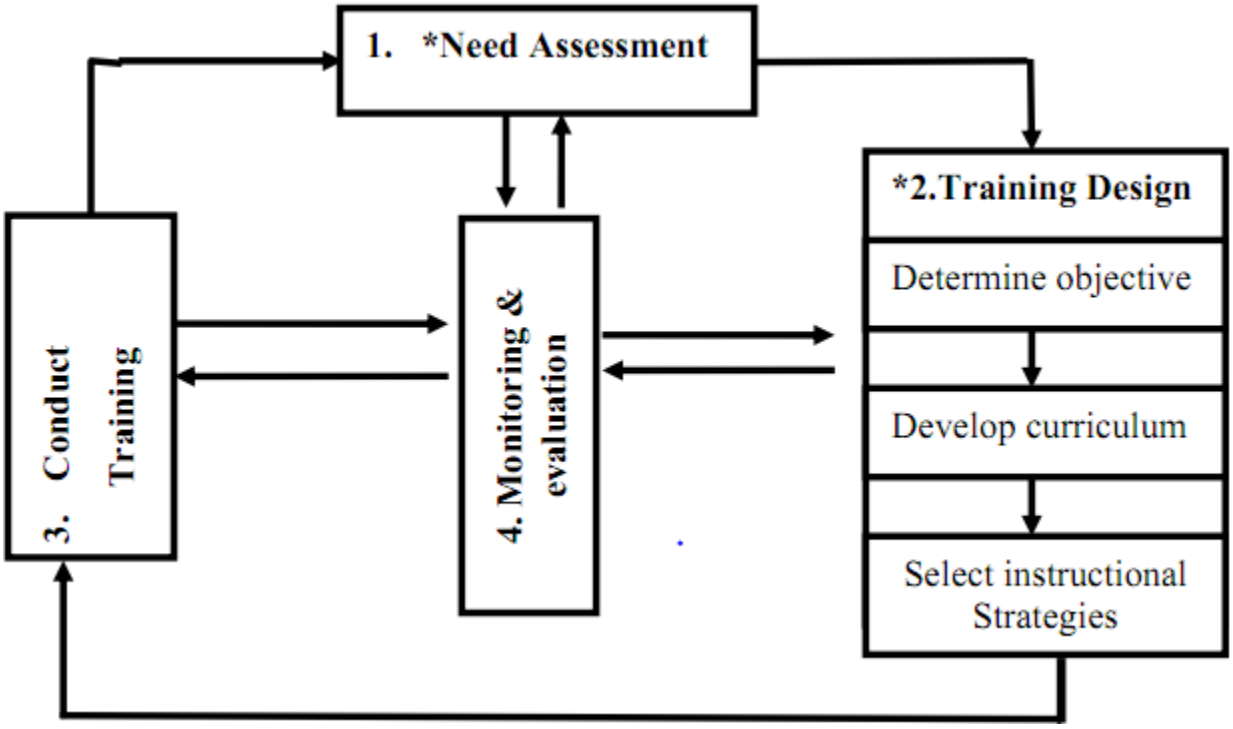
(b) Implementation phase

It is the actual conduct on delivery of training based on physical facilities, sequence of training and choosing effective training methods and techniques to deliver it. Once the planning phase of the training program is completed, then it is time to implement the course. Implementation is a point where a trainer activates the training plan or it is the process of putting a training program into operation. Once the training center and concerned organizations agree to implement training, the next step is to deliver effective training using arranged available resources. All these resources need to be well managed and coordinated to run the program smoothly (Swanson et al., 1997; as cited in Luchia, 2010).

(c) Monitoring and evaluation phase

This phase or stage of the training cycle refers to the checking to see that you have succeeded in achieving your objectives and where necessary, making changes to improve training activity results in the future (FAO, 2002). Monitoring is an internal activity designed to provide constant feedback on the problem it is facing, and the efficiency within which it is being implemented. It is continuous assessment of gathering information on all the aspects of a given duty. Evaluation is a periodic assessment of the relevance, performance, effectiveness and impact of a given activity in the context of its stated objectives which involves comparisons requiring information from outside the project in time, area and population (St Mary, 2006).

Figure 1: The cycle/phases of training



*No.1 and 2 refer to planning phase

Source: Adapted from Ousman (2007)

2.2.2. Training Methodology

A training program has a better chance of success when its training methods are carefully selected. A training method is a strategy or tactic that a trainer uses to deliver the content so that the trainees achieve the objective. A training programme has a better chance of success when its training methods are carefully selected. Four major factors are considered when selecting a training method: the learning objective, the content, the trainees, and the practical requirements (Mahlangu and Sekgota, 2005; as cited in Luchia, 2010) .

Effective training involves the learners in the use of several sensory modes or representational system, i.e. provides observation, discussion and practice. Thus, effective training requires using a variety of methods, including visual and auditory methods and aids (Hassen & Amdissa, 1993; as cited in Luchia, 2010).

2.2.3. Training Content and Relevance

Once training needs have been identified and training activities have been decided as part of the solution, a needs analysis should be done to determine knowledge, skills, and attitude requirements and performance deficiencies. The needs analysis procedure involves breaking down the "training problem" into its basic parts in different successive phases to identify and understand the important components in each phase. Ultimately it leads to identifying and understanding the training content to relevant and need based. This means, that theories and concepts must be related to a setting familiar to participants (Barbazett, 2006).

This need can be fulfilled by letting participants choose learning projects that reflect their own interests. Curriculum development is the most important part in a training programme after a need for training has been identified. The curriculum specifies what will be taught and how it will be taught. It provides the framework and foundation of training or training content (Miller and Osinski, 2002 as cited in Biruk, 2010).

2.2.4 Criteria of Trainees` Selection for Training

Agriculture, the back bone of the country's economy, is known by its backwardness and even the rural farmers have poor knowledge of modern agricultural technologies and hence their agricultural activity is traditional. Therefore, it is required to train farmers in the agricultural training centers and make them acquire basic knowledge of modern agricultural technologies which could be implemented later to improve the sector's outputs (MoARD, 2009b). According to documents, the selection of farmers for the training should focus on identification of committed ones who have the desire and initiative to modernize the existing traditional agricultural practices of the area. For the selection of such farmers, the major criteria are educational Background, completion of the selected courses of training provided in the FTC for a time of six months or 300 hours, attendance of more than 75% of the time scheduled for the training and promotion of skill testing offered by external examiners.

2.3. Requirements for Effective Training in FTCs

According to different literatures for an effective teaching-learning process in FTCs the following requirements have to be fulfilled as much as possible.

2.3.1 Selecting Appropriate Teaching Materials and Equipment

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. Training materials may be categorized into two main types i.e., printed and non printed materials. When Visual aids are used they help to overcome limitation of time, size and space and people can see what they cannot visit in real life (Youdeowei and Kwartteng, 1995; as cited in Fisseha, 2009).

The training centers need to be equipped with classrooms, workshops, exhibition centers, demonstration trials, residential houses, meteorology stations and others. Accordingly, depending on the real situation of the areas, centers should have to secure 1-3 hectares of land for the construction of the above mentioned facilities. In addition, the construction of these facilities should maintain at least the minimum standards depending on the existing situation (MoARD, 2009b).

2.3.2 Quality and quantity of extension agents/trainers

Inadequate numbers and qualifications of staff remain a difficult problem for public sector extension organizations. Salaries and benefits are rarely competitive with those of comparable private and public enterprises, resulting in low morale and high staffs turn over. 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 (Swanson, 1997; as cited in Fisseha, 2009).

The main actors in the teaching-learning process at FTCs are the extension agent's. Though the number of DAs has increased substantially over time, especially during the last few years, field level observations could testify that the quality of DAs (in technical knowledge, in communication and practical skills, and their attitude to work with and for farmers) is disapprovingly low. Much needs to be done to build their confidence and capacity to diagnose farmers' problems, asses marketing opportunities and risks, identify appropriate information and

feasible technologies for their localities and facilitate a co-learning process both for themselves and for farmers (Habtemariam, 2005).

2.3.3. Incentives and Motivation to Extension Agents

Incentive and motivation to extension personnel plays a great role in the efficiency and effectiveness of extension services (Bahal, 2004). An important aspect 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, as well as provide training and promotional opportunities .

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, 2009).

Von Blanckenburg (1984; as cited in Fisseha, 2009) mention that certainly the living conditions of field agents are often difficult. They stay in villages which may not have many of the facilities of modern civilization, such as electricity, running water, cultural events, or good schooling for their children. Many of them are separated from their families. Due to the poor pay structure and less promotion opportunities new and qualified extension personnel prefer to join other organizations having better opportunities.

2.3.4. Leadership Capabilities, Commitment and Participation of Target Population

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 free standing extension projects (Purcell and Anderson, 1997 as cited in Fisseha, 2009). Government failure to allocate necessary funds to run extension systems is one key indication of such lack of commitment.

Many successful training activities result from committed and skilled leadership. This role may be taken by an individual, a group, a department, an organization or an agency depending on the nature of objectives and, of course on who is committed to them. 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).

To be more relevant to the needs of farmers and other clients, extension policy should be reviewed and formulated through a participation approach. This process could be initiated by dedicated professionals from the public and private sectors, with the active participation of farmers themselves (Tito, 1997 as cited in Swanson, 2009).

2.3.5 Organizational Capabilities and Communication within the Service

One of the most inhibiting forces to successful development is lack of effective communication within and between different actors (Samson, 2007; as cited in Fisseha, 2009). Communication in extension organization takes place within the organization and outside the organization among different actors in order to achieve organizational goals. In general, communication in a reputable organization includes both formal and informal communication. 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, 2004).

A body or bodies need to create a small organization to mount a training program. The organization needs several characteristics to act effectively, that are clear authority, adequate resource, agreed aims and good leadership. One of the most potential weaknesses of an extension service is the lack of vertical communication between workers in the field and their chiefs at regional and national head quarters and vice versa. Supervision of field staff is often erratic, or may be almost non-existent or poor. Field visits may be rare and unpredictable; instructions may then be given based on inadequate and hasty appraisals. As a result national policies seldom reach the local extensions, and feedback rarely reaches the top levels of administration whose decisions are then made without a full and up-to-date knowledge of the situation at the operational level (Rogers and Svenning, 1969; as cited in Fisseha, 2009).

Collaboration and networking between actors is a necessary condition for successful introduction of agricultural technologies; whereas, linkage mechanisms refer to organizational arrangements (e.g., meetings or administrative relationships) that help to link up the parts of the system. Coordination (e.g. mutual adjustment of activities), or resource transfers (perhaps credit, salary payments or shared labour) are important for effective extension work (Salomon and Engel, 1997 ; as cited in Biruk, 2010).

2.3.6 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 and AEAs in particular has been poor (Fisseha, 2009)

Government financial resources for rural development in poor countries are notoriously scarce. In the majority of countries the affect of this has not been so severe on the actual number of extension staff but rather on the level of salaries and on financial available for equipment and its maintenance. In other words, many low developed countries do not have the capacity to train agricultural scientists, and must incur high cost to train research workers and to purchase scientific equipments. These differences in cost, of course, reflect large differences in quality of extension workers. 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 (Bahal, 2004).

2.4. Review of Empirical Studies on FTCs Based Extension Services

According to the World Bank (2006), learning which includes education and training is the mechanism which has the potential to facilitate development and KASP (Knowledge, Aspiration, Skills and Practice) change of individual. Farmers who participate in formal and informal training are more likely to subsequently make successful changes to their practice, compared to the level of successful changes among those who do not participate. Farmers with more education get much higher gains in income from the use of new technologies and adjust more rapidly to technological changes. Most changes to practice are influenced by interaction with, and information from, a number of sources, including peers, experts and training events. Family, extension workers and other farmers are relatively more important in prompting change for farmers with limited educational qualifications. Moreover, extension workers, other farmers and training events are important at all stages of the decision-to-change process. They are major sources of awareness of subsequently implemented strategies and practices as well as major sources of influence on the decision to change.

As Tesfaye (2008) explained in his thesis research, education was very important for the farmers to understand and interpret the information coming from any direction to them. Farmers' education was also an essential element for the effective efforts of extension personnel because farmers have capability to understand and interpret easily the information transferred from development agents. He was also reported the significant and positive association between training and adopting technologies but they need intensive training for proper and effective utilization of those technologies.

Kefyalew (2006) reported that farmers training programs undertaken in Ethiopia are with a number of problems. Some of the serious shortcoming of the trainings are that there is no clear training policy that guides the involved actors, the presence of which may clear those confusions of lack of uniformity in participation of the farmers, duration of the training, absence of curriculum or guidelines to make it at least uniform but flexible. The skill and knowledge gained through training was not sufficiently backed by provision of inputs and services especially, for the poor farmers, because of inability of paying down payment. On the other hand, the key issue of training which could help to solve a number of problems, i.e. the training needs assessment was neglected. These could clearly indicate that at the verge of the declared campaign in the country to open hundreds of Farmers Training Centers (FTC).

According to Fisseha (2009) thesis result, low community participation, non-educational work load on extension agents, lack of permanent budget, high dropout rate of trainees from FTCs, expectation of benefits in the side of farmers, lack of teaching materials and equipments, lack of infrastructural facilities, weak monitoring and evaluation systems, shortage of demonstration area and provision of unsuitable land for FTCs, an availability of educated farmers for training, lack of transportation facilities, farness of FTCs from farmers and DAs residence, lack of clear guideline ,curriculum and modules, lack of incentives for extension agents and less political commitment were the major constraints FTC based extension service effectiveness.

Argaw (2010) also identified in his research on FTCs based trainings, the FTCs training reflects non-participatory traits in relation to decision on basic issues although MoARD guide acknowledges some of the principles in theory. Especially their participation over the main areas in which adults need to decide like what to learn looks shallow. The absence of trainees` direct participation in the preparation of the materials has made the training to be given on

approximated needs rather than actual identified needs of the trainees. The training situation of DAs and their practical activities indicated the presence of gaps in the facilitation of the FTC training which is a crucial point for realization of development goals.

Findings of Adebabay et al., (2009) an assessment report on DAs' capacity in planning and delivering of modular training to farmers in FTC setting was indicated that some districts were claimed that they had not yet received those training modules and texts either from zones or bureau. Training was delivered without providing guidelines and training modules to FTCs. The training was not organized as per the guidelines of BoARD. DAs were also deficient in training skills, especially on training techniques. The qualities of FTCs were several times raised by DAs but no attention was given for its improvements.

The study on effectiveness of modular training by Wuletaw (2010) has revealed that modular training is potential growth indicator in the study area. It is the training that farmers could perform better enterprises having knowledge gained, skill acquired and altitude changed.

The study by kefyalew(2006) showed that trained farmers' attitude is favorable towards improved agricultural practices; their openness, receptiveness and their knowledge were increased when compared with the untrained ones. Luchia(2010) explained that ,field practices and practical demonstration were the two most important and appropriate methods for effective training on a specific agricultural production technology as well as for technology dissemination.

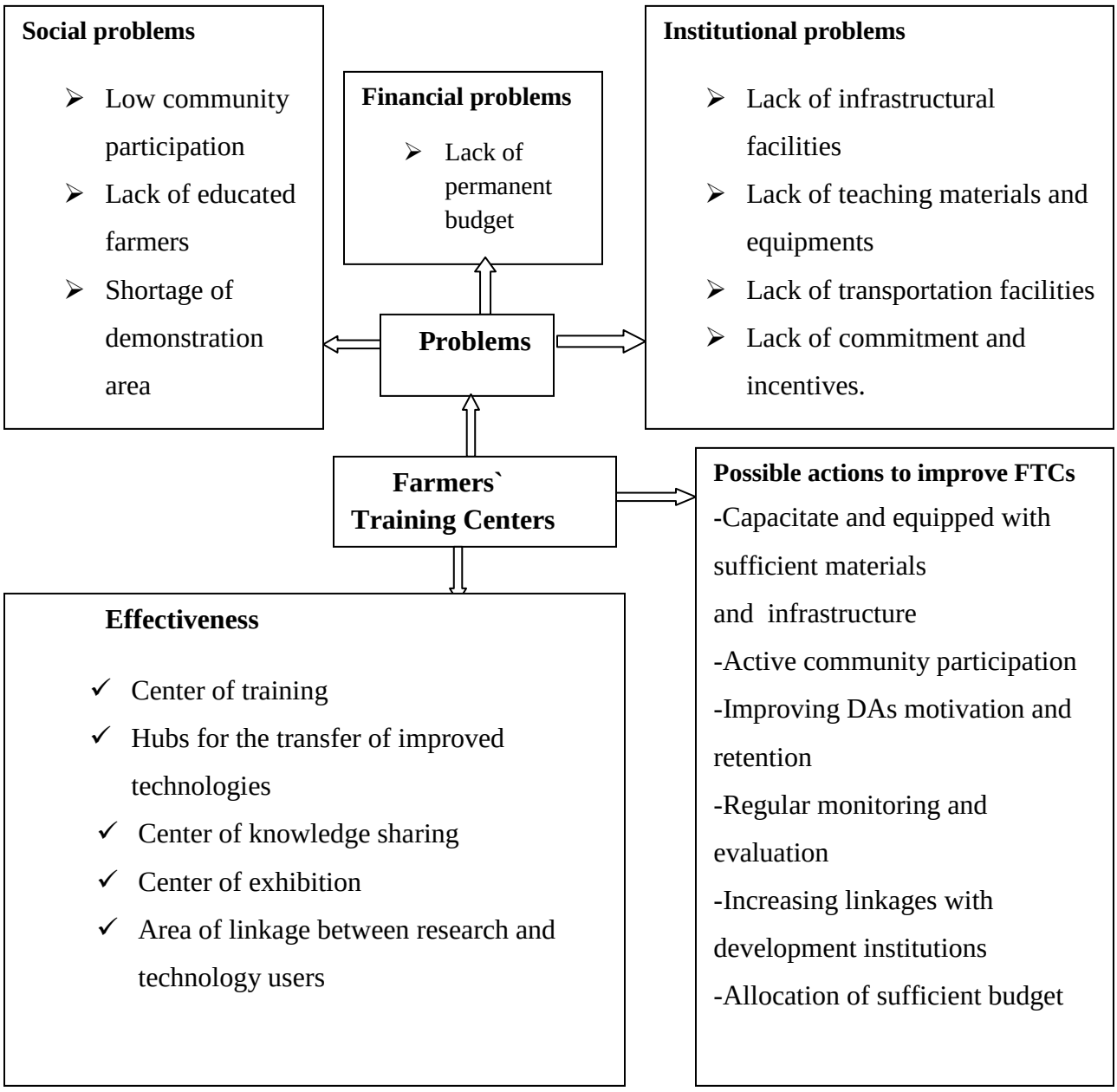
2.5. The Conceptual Framework of the Study

To achieve agricultural development in Ethiopia an effective extension services for rural farmers play crucial roles. One of the development strategies of the country`s extension service is establishing FTCs in each rural PAs around the country. The main roles of those centers are to create modern farmers with skills and knowledge by using new improved agricultural technologies and enhance agricultural development. For achieving these goals the centers should perform effectively their duties and responsibilities through identifying the problems that affecting the performance of FTCs to achieve agricultural development.

The performance, problems and prospects of these centers need to be supported by empirical researchers for further improvements. The extension teaching methods such as the mass, group and individual methods are clearly identified and articulated in this study. In order to do this, the requirements for effective teaching and learning process in the centers were suggested by scholars and development practitioners. Such requirements are selecting appropriate teaching materials and equipment, quality and quantity of extension agents/trainers, incentives and motivation to extension agents, leadership capabilities, commitment and participation of target population, organizational capabilities and communication within the service, financial resources and monitoring and evaluation of training provided.

In this study, effort has been made to identify factors affecting the performance of FTCs in agricultural development through literature, practical situations and field observations. The researcher has formulated the major concepts of the study and these are shown in an interrelationship with farmers training program of FTCs. The conceptual frame work presented in figure 2 below presents the most important variables assumed to influence the agricultural development through the performance of Farmers Training Centers.

Fig 2.Conceptual framework of the study



Source: Own construction, 2014

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1 Description of the Study Area

The study was conducted in Arbegona woreda, which is one of the 19 woredas in Sidama zone, in the Southern Nations, Nationalities and Peoples' Regional (SNNPR) state and is located about 347 km far from Addis Ababa, and 77 km apart from Hawassa ,the center of SNNPR, to the south east direction. The major town in Arbegona is Yayye. Astronomically, the area is located between $6^0$47′ and $6^0$82′N latitude, and between $38^0$59′ and $38^0$84'E longitude. It is bordered by Oromia region in the North and North Eastern, Bensa Woreda in the South Eastern, Bona woreda in the South and Bursa Woreda in the West (AWARDO, 2012).

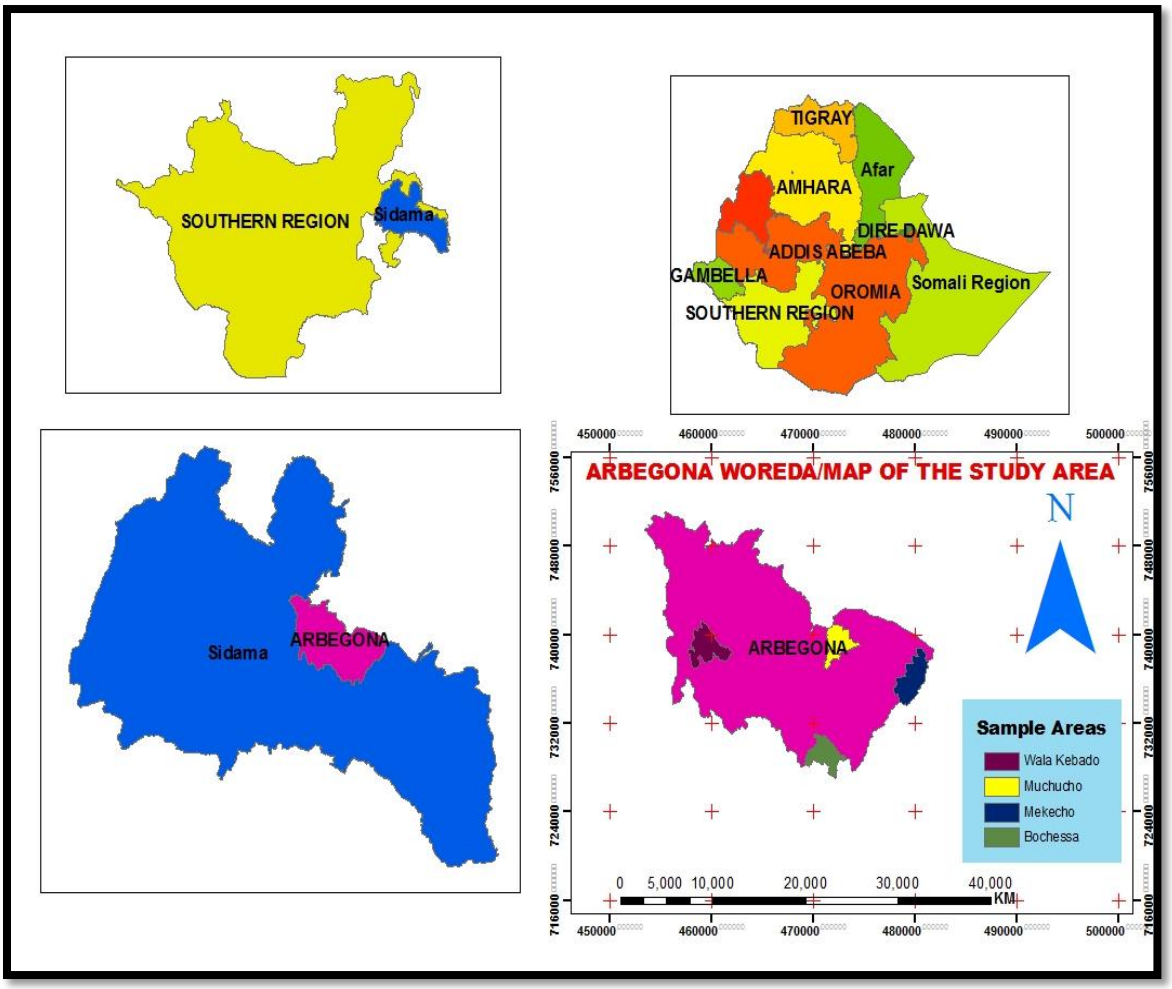


Fig.3 Map of the study area

Based on the 2007 Census conducted by the CSA, this woreda has a total population of 135,862, of which 67,744 are men and 68,118 women; 6,745 or 4.97% of its population are urban dwellers. Majority of the inhabitants were Protestants, with 88.9% of the population reported that 6.5% reported traditional believers, 2.4% were Muslim, and 1.7% practiced Ethiopian Orthodox Christianity. The three largest ethnic groups reported in Arbegona were Sidama (96.8%), Amhara (1.7%), and Oromo (0.9%); all other ethnic groups made up 0.6% of the population. Sidamu Afoo is spoken as a first language by 98.1% of the inhabitants, 1 % speaks Amharic, and 0.8% Oromiffa (CSA, 2007).

The total land area of the woreda is 36,000 hectares and out of these 24,840 hectares of land was under cultivation with totally 38 rural kebele peasant associations and one woreda town. Among 38 PAs in the woreda, FTCs were constructed in 36 PAs and in each of the rest PAs FTCs have been under construction. Among the 36 FTCs, 18 were functional and 18 FTCs were semi-functional. The Woreda has the potential for both crop and livestock production.

The Woreda receives a mean annual rainfall varying from 1401-1600mm, and its altitude ranges between 2001-3500m above sea level. The average annual temperature ranges from 10.1- $20c^0$, and this shows that the study area can be classified under 'Dega' and'WoinaDega' agro climatic region(AWARDO, 2012).

Concerning sanitation there is one hospital under construction, five functioning health centers (HCs), 27 functioning health posts (HPs) and 11 HPs under construction (AWHC, 2012).

3.2 Research Design

The study was based on descriptive survey design encompassing both qualitative and quantitative data. Descriptive research is a method that involves making a careful description of educational phenomena (Gall et al, 2006). Leedy (2005) describes a descriptive survey as a normative survey. With respect to the objectives and nature of research questions of the study, combination of both qualitative and quantitative data collection techniques have been employed.

In qualitative method, different knowledge claims, enquiry strategies, and data collection methods and analysis are employed (Creswell et al., 2003). Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions (Myers et al., 2002). Furthermore,

according to (Philip, 2004) qualitative method is designed to help researchers understand people, and social and cultural contexts within which they live.

Whereas, Quantitative methods measure variables on a sample of subjects and express the relationship between variables using effective statistics such as correlations, relative frequencies, or differences between means. Mixed methods also is an attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers' choices (i.e., it rejects rigidity) (Johnson, et al., 2004).Therefore, for this study , mixed approach was selected to be appropriate.

3.2.1 Types and Sources of Data

Data is derived from direct or indirect survey of perceptions, from interviews, observation, public documents or written opinions (of people, events, opinions, attitudes and environments, or combinations of these) (Sprinthell, J. et al., 1999). In order to fulfill the objectives of the study and make the data collection process more comprehensive, both quantitative and qualitative data required for the study were gathered from primary and secondary sources.

The relevant primary data were gathered from sample respondents, key informants and extension agents who are working in the functional and semi-functional FTCs, on different aspects that have an association with the problems and effectiveness of FTCs using semi-structured interview and check lists. In order to draw the right conclusion from the survey work, qualitative information was also gathered through group discussions, observations and key informant interviews.

Secondary data on the bio-physical, socio-economic and demographic factors of the Woreda were acquired from the Office of Agricultural and Rural Development of the Woreda. Additional information about FTC was gathered from woreda offices, books, journals, documents, reports, websites and different communication media.

3.2.2 Sample Size and Sampling Procedure

For this research, multi-stage sampling procedure was employed to select the sample. First Arbegona woreda was selected purposively from Sidama zone because, even though, the process of training is similar in every woreda of the zone, the study area was chosen because of multiple reasons. These include: so far there is no scientific studies conducted regarding FTCs in this

woreda and the researcher motivated to find out the current status and conditions of FTCs and the effectiveness of the trainings that offered at FTCs in this district and finally, the previous knowledge of the area.

At the second stage all 36 FTCs of the woreda were stratified into two categories i.e. functional and semi-functional FTCs. At the third stage, from functional and semi-functional FTCs, 4 FTCs (2 FTCs from functional and 2 FTCs from semi-functional) were randomly selected.

After selection of the study areas, participant farmers were identified through group discussions that were held with the supervisors and development agents of the kebeles. The selections of sample respondents were determined by using the formula. To arrive the sample size, the researcher has made use of the following formulas often used in most social science researches for sample size determination when the target population is less than 10,000 (Lewis, 1997). The estimated response rate was 86.5% i.e. out of the base sample size, about 86.5% was expected to respond and 13.5% was non-respondents due to different reasons.

1. $n = (Z\alpha/2)^2 p (1-p) /d^2$ ……eq .1

2. $nf = n /1+ (n -1)/N))$ ……eq.2

Where: n - is the desired sample size,

Nf- is the actual sample size

Zα/2- is the standard normal deviate at the required (95%) confidence limit (1.96).

p –is 0.135(contingency for non-response rate)

q – is 1- p (1- 0.135=0.865) ;

d – is the level of statistical accuracy (margin of error) set usually at 5% ;

N - is the total number of the household heads

Using the above formulas, the desired sample size (n) is calculated as follows:

$n= (Z\alpha/2)^2 p (1-p) /d^{2,}$ Therefore $n = (1.96)^2 (0.135*0.865) / (0.05)^2 = 179$

Substituting the value of n (179) in the second formula the actual sample respondents' number is calculated as follows:

$$nf = \frac{n}{1+\frac{n}{N}} = \frac{179}{1+\frac{179}{462}} = 128.$$

Therefore, for this study the totals of 128 sample respondents were selected from four kebeles. To generate relevant information, the required sample respondents from each kebele were proportionally selected with respect to the number of total households of each kebele through the following formula (Thomas, 1991):

$$n = \frac{N(S)}{\Sigma N} \quad \text{.....eq .3}$$

Where, n= the number of required samples of each kebele;

N= Total household heads of each kebele;

S= Total sample size of the four kebeles to be treated;

ΣN= Total household head of the study area.

Therefore, for example, the sample size for the first kebel (Bochessa) in table 2 below is

$$n = \frac{N(S)}{\Sigma N} = \frac{104 \times 128}{462} = 29$$

Finally, 28% of 128 households were selected from the respective list of farmers in the selected four FTCs/ PAs by using probability proportional to the size (PPS) random sampling method. In addition, all development agents (10 male and 2 female), four supervisors from selected four development centers/Kebeles were included from the population of the study PAs.

Table2. Sample respondents in the study sample areas

No	List of kebeles	Total Trained Households	Sample Size
1	Bochessa	104	29
2	Muchucho	122	34
3	Mekecho	106	29
4	Wala Kebado	130	36
Total		462	128

Source: Own set, 2014

3.2.3 Methods of data collection

The data were collected between January and February 2014 by the help of four well trained interviewers. Interviewers were selected for their proven ability to competently translate the interview guides from English to the relevant local languages. Based on both primary and secondary data sources, qualitative and quantitative data were collected using different methods. For primary data, semi-structured and structured interviews, Focus Group Discussions (FGDs), key informants interview, and direct observations using checklists were used depending on the context of specific objectives of the study.

After the necessary modification, the final drafts of the questionnaires were taken to the study area for pre-testing before using the actual data collection. Four personnel and eight farmers in the study area were selected for pre-testing. The data were collected in two phases. In the first phase, farmers were interviewed, either in groups or individually, using the structured questionnaire. In the second phase, field extension agents and related extension organizations personnel were interviewed. The interviews were conducted in the local language and recorded so that the researcher could fill in the questionnaires at the end of the day. Secondary data were also collected from different documents, woreda office of Agriculture and Rural development and other organizations and many published studies to complement primary data.

3.2.4 Method of data analysis

After the data collection each questionnaire was tallied and organized using a summary sheet. After this process the data were coded, entered and analyzed by using statistical package for social science (SPSS) 16.0 versions software computer program for window use.

Descriptive analytical statistics such as frequency and percentages were used for the quantitative data analysis. Qualitative data were analyzed through interpretation and conceptual generalization. Qualitative and quantitative data were integrated as necessary and presented through description, tables, figures and diagrams.

3.3 Data Validity and Reliability

According to Creswell (2009) the strategies that were used to check the accuracy of the findings include triangulating data sources by diversifying instruments of data gathering and detailed descriptions. The interview guide, procedures, and planned analysis were used before the main study begins, using a small group from the same population being studied (Gay et al., 2003). Moreover, prolonged engagement in the observation activities and participant checking were also used to validate the data. Thus, for this study, the validity and reliability of data was assured by different techniques. The questionnaire was prepared carefully by the researcher and further commented by the advisor, whether it was in line with the targeted objectives and research questions, before conducting data collection.

The questionnaire was pre-tested before conducting the actual data collection process. Randomly eight farmers and four agricultural personnel were selected from the study area and questionnaire was distributed among them. Considering the pre-test information, some amendments were made on the questionnaire to make it fit to the context before it has been administered. Reliability is defined as be fundamentally concerned with issues of consistency of measures. According to Hair et al., (2006), if α is greater than 0.7, it means that it has high reliability and if α is smaller than 0.3, then it implies that there is low reliability. The Cron-bach alpha was used to conduct the reliability test. The computed coefficient of alpha value for distributed questionnaire was 0.899, which is above 0.7. This indicates the reliability of the instrument is capable to measure what it was supposed to measure (table2 in appendix).

3.4 Ethical Consideration

This study was kept important ethical issues, before the beginning and during each data collection of the study which was clearly described to those respondents who participated in this study in any way and step forward was based on the permission of the respondents. The basic ethical issues considered in this study were:

- The culture, tradition and language of the respondents were respected starting from the guide study, and questionnaire study and writing of the findings.
- The survey data were promised to be handled carefully and used for the purpose of this research only.
- Sense of secrecy was maintained among respondents where information might be sensitive so that the respondents gave the information without unwillingness.

CHAPTER FOU

4. RESULTS AND DISCUSSION

4.1. Socio-economic Characteristics of Sample Respondents

The socio-economic characteristics of sample respondents in this study include, sex distribution, age category, marital status, educational status, family size and farm land holdings.

4.1.1 Sex and Age of Respondents

The total sampled households of the study were 128 respondents, out of which 91 (71.1 percent) were males and the remaining 37(28.9 percent) were females. Thus, the analysis of the sex of the respondents show that majority of households in the study are males. In addition to this, according to DAs and key informants during the focus group discussion, the participation of female households in FTCs activities like planning, implementation, monitoring and evaluation, training, experiences sharing and so on were low. This indicates that the community participation based on the sex differentiation affected the performances of FTCs based activities in the study area.

Table3. Distribution of Respondents Based on Sex and Age Categories

No	Variables	Category	Frequency	Percent
1.	Sex	Male	91	71.1
		Female	37	25.9
		Total	128	100.0
2.	Age in years	15-24	13	10.2
		25-34	59	46.0
		35-44	45	35.2
		45-54	11	8.6
		Total	128	100.0

Source: survey result, 2014

The age of sample respondents range from 14 -54 years and 46 percent of the respondents fall in the age range of 25-34, followed by 35-44 (35.2 percent). The other age groups, 15-24 and 45-54 account for about 10.2 and 8.6 percent respectively. Thus, it is clear from table3 that majority of the respondents fall in the mid-adult age groups ranging from 25-34 and 35-44. These two age groups are relatively productive ages having high motivation to participate and broader vision of change to the performance of farmer training center activities. This also indicates that more sample households are economically active in the study area.

4.1.2 Educational and Marital Status of the Respondents

Education is one of the important indicators of human capital, which increases farmer's ability to obtain process and effectively use agriculture related information; the ability to participate in agricultural activities and the ability for effective use of technologies. According to Adisa, et al (2006) training is a process by which the skill and ability of people are improved to perform specific job better and require some level of literacy on the part of the trainees to cope.

Table4. Distribution of Respondents Based on Educational and Marital Status

No	Variables	Category	Frequency	Percent
1.	Educational Status	Illiterate	30	23.4
		Grade 1-4	48	37.5
		Grade 5-8	32	25.0
		Grade 9-12	11	8.6
		Certificate	7	5.5
		Total	128	100.0
2.	Marital status	Single	5	3.9
		Married	108	84.4
		Divorced	7	5.5
		Widowed	8	6.2
		Total	128	100.0

Source: survey result, 2014

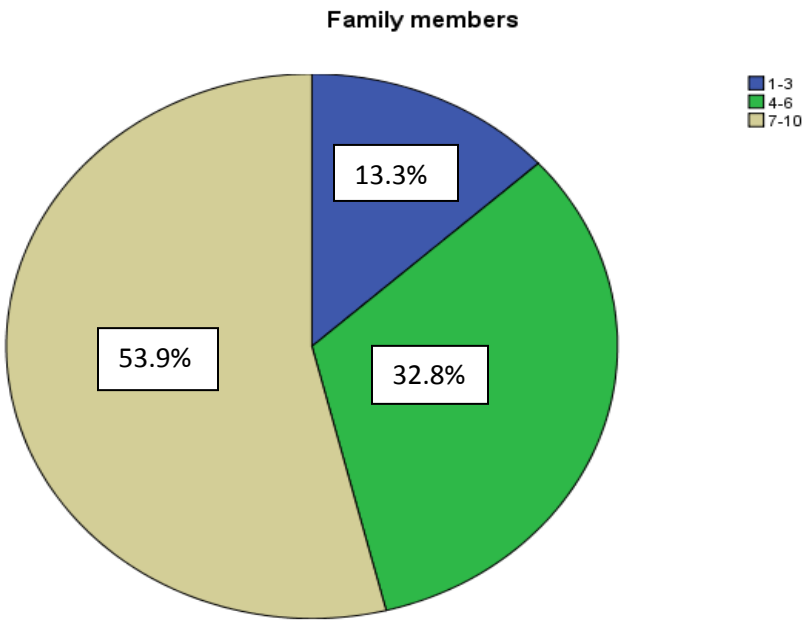
Concerning the educational background of respondents table4 describes that from the total sample respondents, 37.5 percent were under the category of grade 1-4 (junior level education), and 25 percent were under the category of grade 5 - 8. On the other hand 8.6 percent were the high school dropouts. There were 5.5 percent respondents who have certificates and diploma. The respondents who had never attended formal education (illiterate) account 23.4 percent. This justifies one of the major constraints which were listed by extension agents in their centers. All of the extension agents at sample FTCs expressed lack of educated farmers who can read and write during the training as the main problems of communication.

Regarding the marital status, from the total sample respondents 84.4 percent were married. Very small proportions (only 3.9 percent) were single. The remaining 5.5 and 6.2 percent were divorced and widowed respectively (table 4).

4.1.3 Family Size of the Respondents

This refers to the number of persons permanently living in a household. The sample respondents' ranges from 1-10 persons and the figure below shows that the respondents have small family size (1-3) are 13.3 percent. Respondents have medium (4-6) size of family size are 32.8 percent. Finally the respondents have large size (7-10) of the family size are 53.9 percent. The results indicate that majority of the studied households have large family size. This shows that large households are able to provide the labor that might be required to implement FTC activities and participation in extension services in farmers training centers.

Figure 4 Characteristics of respondents based on family size variable

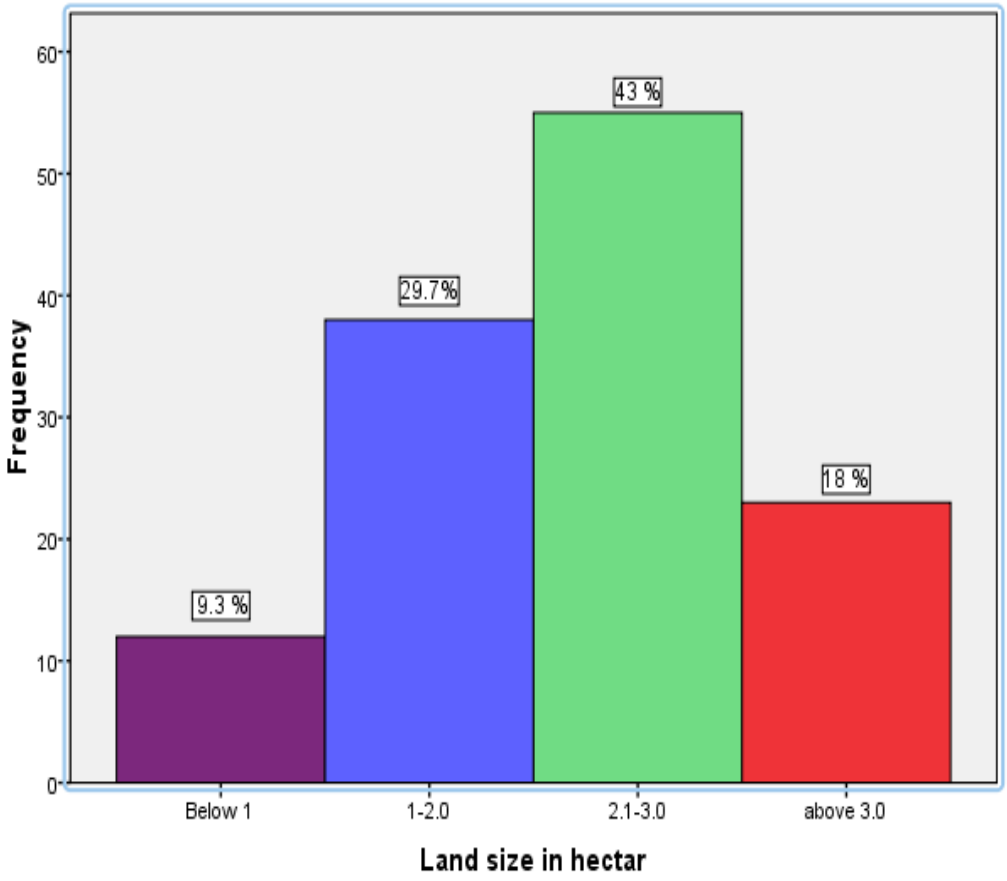


Source: survey result, 2014

4.1.4 Respondents` Farm Land Holding Size

Productive land is a primary source of livelihood for rural households in the study area. As can be seen from figure 5, sample households owned land size below one hectare were 9.3 percent and owned land size between 1-2.0 hectares represented 29.7 percent. 43.0 percent of interviewed respondents replied that they owned the land between 2.1 - 3.0 hectares. Those who owned the land above 3.0 hectares represented 18.0 percent. This shows that larger the farm size, higher is the possibility to use a combination of technological packages. However the researcher observed from focus group discussion and key informants interview that, more rural farmers were not participated to use and adopt a combination of technological and extension packages from farmers training centers while they have large size of land.

Fig 4.2distribution of respondents` farm land holding



Source: survey result, 2014

4.2 Current Status and performance of FTCs in the Study Area

4.2.1 The Status of Farmer Training Centers in the Study Area

In Arbegona woreda, Farmers Training Centers (FTCs) were established in the year 2004 to provide the need based training programme for farmers .According to the information obtained from woreda office experts, currently there are 36 FTCs in the study woread. Out of these, 18 FTCs are functional and 18 FTCs are semi-functional. Out of four sampled FTCs (two functional and two semi-functional), two FTCs (Bocessa and Wala kawado) were established in 2004; whereas the rest two FTCs (Muchucho and Mekecho) were set up in 2010. The FTCs were established with the objectives to provide a wide range services such as farmer training and extension services on improved farming techniques (through training courses, exhibits,

demonstration, field days and farmer-to-farmer extension); market-oriented information and advisory services; meeting and communication facilities.

Each sampled FTC has the capacity to hold 30 trainees and it was staffed by three extension agents and governed by FTC management committee. The committee is chaired by the kebele administrative head. As the information from key informants and extension agents replied , even if some FTCs were started before five years, they were still not completely fulfilled the required training materials and facilities. This is due to, as DAs expressed the insufficient budget allocation for FTCs. DAs also forwarded that in this year ten thousand birr was given by woreda bureau of agriculture and rural development.

The researcher observed that, out of sample FTCs, the Boccessa and Wala kawado FTCs buildings were constructed by the base with stone, the wall with block and wood, and the roof with corrugated iron and the rest Mekicho and Muchucho FTCs' were constructed by the base with stone and the wall and roof with corrugated iron. However, there was considerable variability in the quality of these buildings, depending both on financing and on local commitment in building a permanent classroom/office.

4.2.2 Physical resource capacity at the FTCs

As stipulated by the guidelines for FTCs (MoARD, 2009b), the basic physical infrastructure that FTC required to fulfill to be functional encompasses buildings, classrooms, living quarters for DAs, a common office, workshop and a permanent exhibition centre. As the researcher observed and interviewed with key informants, in sample kebeles, the process of establishing and organizing functional FTCs is not yet complete. As DAs reported, from sampled FTCs, Mekicho and Muchucho FTCs do not have adequate and appropriate living quarters for staff members while Bochessa and wala kawado FTCs have standard class room, office and appropriate living quarters for the DAs. All sampled FTCs do not have access to electricity.

As can be seen from table 5, the resources accessibility varies between sampled FTCs. With regards to workshop and residences buildings, Bochessa and Wala kawado are among the better equipped FTCs of the woreda. . In addition, in terms of infrastructure and facilities such as chair, tables, shelves, workshops and residences for DAs these two FTCs are better than others. But, according to all respondents these were not satisfactory. This idea was supported by members of

focus group discussion. Participants of FGD stated that, due to lack of adequate chairs and tables they were sitting either on the stone or uncomfortable place. Each sample FTC has one class room, one store and one office. Although each FTC has a toilet, the qualities of two FTCs (Mekecho and Muchucho) were not kept their standard. As it can be seen from the table 5, all sample FTCs do not have some training materials like white board, information board, and Rain gage.

Table 5. DAs response on the quantity of basic physical resources in sampled FTCs

Physical resources	**Sampled FTCs**			
1.Infrastructures and facilities	Bochessa	Mekecho	Wala kawado	Muchucho
Class room	1	1	1	1
Office	1	1	1	1
Store	1	1	1	1
Table	10	7	10	8
Chair for DAs	3	2	3	2
Shelfs	3	2	3	2
Workshop	1	—	1	—
Exhibition hall	1	1	1	1
Residence for DAs	1	—	1	1
Toilet	1	1	1	1
Electricity	—	—	—	—
2.Training materials				
Blackboard	1	1	1	1
White board	—	—	—	—
Television	—	—	—	—
Computer	—	—	—	—
Telephone	1	1	1	1
Demonstration field	1.75 ha	0.75 ha	1.8 ha	0.5 ha
Information board	—	—	—	—
Rain gage	—	—	—	—
Metrology station	—	—	—	—

Source: Survey result, 2014

Availability of telephone lines at convenient community centers can facilitate communication and, access to and communication sharing of information. As the information from key informants and DAs, all sampled FTCs have got the telephone access in recent years from woreda bureau of agriculture and rural development office. They also expressed that the three most important purposes for which the telephone lines is used, in order of importance, were reporting emergencies or outbreak of diseases, arranging input and service and communicating with supervisors, experts and woreda offices. In addition, telephone was used for organizing meetings and, to some extent, for market information inquiry and sharing, particularly with farmers who had mobile phones.

4.2.3 Staff Capacity at the FTCs

Development agents at the FTCs have important roles and are expected to perform several tasks (MoARD, 2009). The key services and related roles and functions of these frontline extension agents can be categorized into four:

I. Training farmers and conducting certificate
II. Promotion of the use of improved technologies and practices,
III. Gathering, organizing and dissemination of information relating to market, weather, etc), and
IV. Advising and helping in solving individual farm-management problems and addressing other community concerns like natural resource management.

The existence of sufficient number of well trained, experienced and motivated DAs is an important determinant of the effectiveness of FTCs. At the time of the survey, there were 12 DAs in sample FTCs, of which 83.3 percent were males and 16.7 percent were females. This survey shows that each of the sampled FTCs has three DAs as per the plan of the ministry.

Table6. Personal and demographic characteristics of extension agents working in selected FTCs

No	Variables	Response alternatives	Frequency	Percent
1.	Sex	Male	10	83.3
		Female	2	16.7
		Total	12	100.0
2	Age	24-29	2	16.7
		30-35	7	58.3
		36-41	3	25.0
		Total	12	100.0
3	Marital status	Single	4	33.3
		Married	8	66.7
		Total	12	100.0
4	Work experience	Below 3 years	2	16.7
		4-6 years	5	41.7
		7-10 years	3	25.0
		11-14 years	2	16.7
		Total	12	100.0

Source: Survey data, 2014

Table 6 shows that, the minimum age of the DAs is 24 years and the maximum age is 41 years. Two of them (16.7 percent) are in the category of 24 to 29 years. Majority of them, (58.3 percent) are in the age category of 30- 35 and the rest of them (25 percent) are found in the age category between 36 to 41 years. Regarding marital status, the majority (66.7 percent) of DAs are married where as the remaining (33.3 percent) are unmarried or single.

According to the recommendation of MOARD (2009b), each sample FTCs have fulfilled the required number of staff capacity (extension agents) that is, one in plant science, one in animal science and one in natural resource. The work experiences of the extension agents are different from person to person and they are having from 2 to 14 years experience in agricultural fields.

Concerning this, table 6 shows that 16.7 percent of them have a services of below three years and 41.1 percent of them have a service of 4 to 6 years. The others 25 percent and 16.7 percent of them have the services of 7-10 and 11-14 years respectively.

The motivation of Extension Agents is one key element in changing the situation of the rural families. From table 4.6, the majority (72.7 percent) of the sample respondents said that the development agents were motivated and had interest in helping them; while 27.3 percent of them replied that the agents were not motivated or interested to work with the farm families. Farmers interviewed were demanding specific skills from DAs; they noted the need for training and technical assistance as they rapidly move into the production of high value crop and livestock enterprises. Interviewed farmers noted that DAs lacked the necessary practical experience and expertise to teach these skills. In addition, DAs also lack training in other key areas, such as intensifying or diversifying farming systems, agricultural marketing, and other communication and skills, such as how to organize producer groups.

Table7. Distribution of respondents` response on motivation of DAs to work with farmers.

No	Variable	Category	Frequency	Percent
1.	Motivation /interest of DAs to train and work with the farmers	Yes	93	72.7
		No	35	27.3
		Total	128	100.0

Source, field result, 2014

4.2.4 Demonstration facilities and uses at the FTCs

Demonstration is a powerful instrument to teach and convince farmers among the extension methods especially for illiterate farmers. This Study revealed that though farmers were able to receive information on production technologies, adoption rate was low due to difficulties to translate such information into actionable or practical knowledge. The existence of basic facility at FTCs is important for practical training and demonstration of improved technologies and pract ices in production, post harvest handling, and processing.

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. With regard to having demonstration areas in sampled FTCs, except two FTCs (Bochessa and Wala kawado), the other FTCs have less than one hectare of land for demonstration purpose. These two FTCs have enough demonstration areas around 2 ha as compared to the others. But the remaining two sample FTCs have no enough demonstration fields. This shows that none of them have fulfilled the recommended area, which is 3-5 ha. The majority of DAs reported that the allocated plots were suitable.

In addition to the availability of facilities, finance is needed for demonstration activities for expenses such as costs of improved inputs/technologies, equipment, labor, animal feed, etc. In their initial stage, FTCs need funding from governmentsupport,from communities and other orga nizations. In Mikicho and Muchuco FTCs visited by the researcher, the DAs had used only a small portion of the farm to demonstrate specific crops or production techniques. In discussions with the participants of FGDs at Mekicho and Muchucho FTCs, the participants noted that the FTCs demonstration sites are poorly managed. DAs working in these two FTCs expressed that as they did not have sufficient budget from organizations to fulfill demonstration facilities. They also articulated that to buy some improved crops, they contributed money from their pockets.

In addition to the information obtained from extension agents, the researcher conducted physical observation to demonstration fields of the entire sample FTCs and has identified a lot of problems as well as strong sides. Some of these problems were due to lack of fencing, the seedling of trees, forage and fruits which were planted by DAs have been damaged and eaten by livestock. The researcher, himself have observed when cattle, sheep and horse were grazing inside most FTCs in this woreda. This is due to the lack of guard services. However, the guideline of MoARD (2009b) recommends two guards for each FTC.

With regard to use, demonstration plots were primarily used for practical training and demonstrat ion of improved technologies and practices at the FTCs. Bochessa and Wala Kawado FTCs used their plots for multiplication of improved seeds and forage planting material (seeds/cuttings). In these FTCs the researcher was visited that, the DAs were showing farmers how to run the demonstration fields like a business, buying and selling different products to farmers (such as fruits, vegetables,) and then they use these revenues to finance ongoing extension and training activities. In addition, these FTCs were used by Arbegona woreda extension directors to both demonstrate and train DAs from other kebeles. The DAs learn how they can develop and use

their FTC demonstration fields for the hands-on training of local farmers and rural youth as well as a revenue-generating unit to finance all future FTC operating costs.

Figure 6. Different planted crops, seeds and grasses in sampled FTCs demonstration fields

Source: survey result, 2014

4.2.5 Transportation facilities for field extension agents

To give a proper extension services to the farmers at FTCs and to serve the farmers in distant areas, transportation facilities are needed to supervisors and extension agents. Farmers interviewed noted that in sometimes it is difficult to see the DAs at FTCs because they are far away and do not have transport. They also reported that DAs do not make daily trips to their assigned FTC, since DAs also do not have any type of transportation and it may take two or more hours to walk to the FTC and then to return home at each evening. All the DAs, who are working in sample FTCs, do not have any transportation facilities given from the woreda office of agriculture and rural development. As table 8 shows, 75 percent of DAs replied as they serve the community by going on foot to the centers and from village to village. 8.3 percent also said

as they used public and private transport by paying up to 30 birr and even more based on the farness and unsuitability of the road for one trip.

Table 8 DAs` response on transportation facilities

No	Item	Response	Frequency	Percent
1.	Having transportation facilities to implement the roles of FTC	Yes No	___ 12	__ 100.0
2.	Means of serving farmers without transportation facilities	By going on foot By private means of transport By Public transport Total	9 1 2 12	75.0 8.3 16.7 100.0

Source: Survey result, 2014

In addition, DAs who are working in Mekecho and Muchucho FTCs also expressed that, in the rainy season it is very difficult to travel by motorcycle and it could be reached mostly by foot because the road to FTCs is not accessible and thus the soil becomes muddy and sticky. The participants of FGD have raised this problem as one of the major problems of farmers` training centers.

4.3 Farmers' Participation on Functioning of FTCs

FTCs were launched with the participation of farmers. As can be seen from the survey results (table 9), out of the total respondents 85.9 percent were the participants since the establishment of FTCs while 14.1 percent were not participated in functioning of FTCs. Participants were participated in the functioning of FTCs based activities like labor and resource contribution, planning and implementation, accepting different extension packages and experience sharing and monitoring and evaluation. Among the participated, the majority (53.6 percent) were participated by contributing their labor and materials for construction, compound fencing and cultivating

improved crops and seeds at demonstration sites. But, only 10.9 percent participated in planning and implementation process of FTCs, and 19.1 and 16.4 percents of the respondents were participated mainly on different extension package services and by guarding and managing FTCs resources respectively. This result shows that farmers were participated only at the time of establishment of the centers and crop cultivation. It is necessary that farmers should participate in the planning and implementation activities of the centers. During survey assessment DAs expressed that most farmers participated passively that means people have participated by being told what is going to happen announced by administrators or development agents. The reasons for the non- participated respondents, 50 percent were reported that lack of awareness about the duties and responsibilities, lack of commitment of DAs and farmers (33.3 percent), and poor extension approach and lack of trust regarding to the services delivering at FTCs(16.7 percent).

Table9. Respondents` participation in FTCs service activities

No	Participation description	No. of Respondents	Percentage
1.	Participation		
	Participants	110	85.9
	Non-participants	18	14.1
	Total	128	100.0
2.	Participation areas		
	By contributing labor and construction materials	59	53.6
	By guarding and managing FTCs resources	18	16.4
	By accepting different extension packages	21	19.1
	In planning and implementation	12	10.9
	Total	110	100.0
3	Reasons for non-participation		
	Lack of awareness about the duties and responsibilities	9	50.0
	Lack of commitment to participate	6	33.3
	Lack of trust regarding the services	3	16.7
	Total	18	100.0

Source: Survey result, 2014

4.3.1 FTCs Managing Body and Governance

According to information obtained from DAs and key informants, all of the samples FTCs have management committee for FTCs activities. The centers were governed by a management committee of five persons and the committee is chaired by the kebele administrative head. According to the information of interviewed respondents of the centers, Bochessa and Walaado kebele FTCs management committee work together with extension agents to strengthen FTCs by mobilizing and creating awareness of the community. However, in Mikicho and Muchucho PAs, the kebele management bodies are not committed and did not give attention to FTCs as the DAs expressed. The researcher has also observed that, most of the work burden was left to extension

agents and supervisors. During the FGDs schedule, the participants reported that the support given by woreda and kebele management bodies was also less. According to the information of extension agents, the linkage of their FTCs with other institutions was poor.

a) Roles and Responsibilities of Committee

To make the activities of the FTCs effective, there were committees with five members monitored by the administrator of the kebele. The committee members were the following.

- Chairperson of the kebele ……..Head
- Extension worker ……. ……Secretary
- Women's representative ……...Member
- Local elders ……Member
- Youth representative …….Member

Three members, one cashier, one purchaser and one accountant, were chosen by the kebele administration/cabinet. FTC management committee deals with establishment, construction and functions of FTCs. The committee also looks for and assesses the sources of land for FTCs construction. At its monthly meetings, this committee plans, manages and evaluates the training and demonstration programme. It also organizes farmers to help in setting up and maintaining the demonstration fields. As the information obtained from key informants reveals that, FTCs management committee has been collaborated with development agents for demonstrating different income generating activities. Activities have been practiced not only for the purpose of demonstrating but also for income generating objectives.

4.4 Opportunities and constraints of Farmers` Training Centers

4.4.1 Opportunities for Improvement of FTCs in the study area

There are different opportunities which can be available for proper functioning of FTCs. The major important opportunities which were identified during survey include: the presence of favorable agricultural and rural development policies and strategies, the presence of skilled DAs who have long years of experience, the collaboration of actors to implement non formal education, access of information and technology dissemination, presence of high community participation, access of river water to divert for irrigation work, the availability of good agro ecology and fertile demonstration plots, the presence of cooperatives, input supply and credit institutions in the Woreda, the presence of clear guideline, curriculum and teaching module, income generation from own services

FTCs can also serve as research center, demonstration area, center of DAs, place of development village for infrastructures (telephone, road, water, electricity, schools, clinic, cooperatives etc), center of adaptation trials for plant and animal species. FTCs could be also serving as a permanent exhibition center, farmers' field of school, and new intervention area, area of meeting for stakeholders and site of recreation and nursery plots. Improved technologies and indigenous knowledge can be compared and integrated at FTCs.

4.4.2 Constraints of Farmers` Training Centers

The major constraints of FTCs which were identified by DAs, key informants and office experts during data collection were the distance of FTC from the residence of farmers, institutional, social and economical problems.

a) Distance of Respondents` Residence from FTC

The distance of FTC from the residence of farmers is one of the main problems to affect the performance of farmers` training center activities. One of the constraints also expressed by extension agents was the distance of FTC from farmers' residence which affects the participation of rural communities and this also reduce the performance of Farmer training center.

Table10. Distribution of respondents based on the distance of respondents` residence from FTCs

No	Variables	Category	Frequency	Percent
1.	Distance of respondents` residence from FTCs (in km)	below 1	13	10.2
		1-2.5	32	25.0
		2.5-4	62	48.4
		4-5.5	21	16.4
		Total	128	100.0

Source: survey result, 2014

As table 10 shows, 48.4 percent of sample respondents were replied that their residences faraway 2.5-4 Km from farmers training centers. On the other hand, 10.2 percent of respondents responded that their residences located below 1 km. The remaining 25 and 16.4 percent of respondents replied that their residence far away from FTC 1-2.5 km and 4-5.5 km respectively. This results show that, According to DAs , respondents whose residences were found near to FTCs likely to participate more in FTC activities such as planning, implementation, monitoring and evaluation.

b) Institutional constraints of FTCs

In this context institution is an organization which is responsible and devoted to the promotion of its program and objectives. So that the primary bodies that are responsible for the overall monitoring and follow up activities of FTCs are agricultural sectors found in different hierarchical levels; from federal ministry of agricultural and rural development to the lowest level of administration i`e kebele extension unit.

Each hierarchical level has its own duties and responsibilities to be discharged in order to achieve the objectives of the institutions and bring the expected output to the target society. In this regard there are a number of problems which hinder the effective functioning of FTCs. The major ones are :lack of commitments ,lack of infrastructural facilities ,lack of teaching materials and equipments ,lack of monitoring and evaluation systems, lack of clear guidelines ,curriculum and modules, ineffective institutional communication, lack of transportation and communication

facilities ,lack of incentives for extension agents, Shortage of demonstration areas, insufficient provision of service training to extension agents for building their technical and soft skill knowledge.

c) Social constraints of FTCs

Social problems are problems that arise from the society/beneficiaries which hinder the effective functioning of FTCs. Some of which are: low community participation for FTC programs, high dropout, delays and absenteeism of trainees from FTC based training, trainee expecting some benefits to attend the training in FTCs, lack of educated farmers who can read and write, lack of clear understanding of FTCs benefits by the majority of the farmers, negative opinion of most farmers towards the services of FTCs.

d) Economic problems

Due to inadequate financial investment the expansion of infrastructural facilities, fulfillment of training equipments and materials, the recruitment and retention of competent extension personnel, adequate provision for in service training of staff and training of farmers, transportation, housing , the conduct of extension programs, and likes cannot properly carried out. Therefore, FTC which has a better status in a financial allocation per year will have better status and good performance otherwise, it will be the reverse. So that lack of permanent budget is one of the major obstacles for the effective functioning of FTCs in the study woreda.

Generally, based on the data gathered from sample respondents, key informants, FGDs and researchers`, a lot of constraints have been seen as a woreda level. The problems were summarized as :lack of adequate operating funds/ budgets ,absence of organized body to manage the works of FTCs with hearty sense of ownership, lack of infrastructural facilities and training equipments, lack of farmers who can read and write, inactive participation of community to FTCs activities, fear of most farmers to accept and implement FTCs services and shortfalls in transportation and communication represents the serious constraints that limit the effective functioning of the centers in the study area and hence it needs more improvement in the near future.

4.5 Assessment of Training Related Activities that Deliver at FTCs

Training is one of the most important instruments for improving practical and imagination of human capacity. According to FTCs operational manual/guideline of MoARD (2009), the main reason for established FTCs is to improve skilled farmers that can transform the country`s agricultural production from subsistence to market oriented production system. Thus, the main duty of these centers is to provide training which is not only limited on transfer of knowledge but also make the farmers market oriented , training should be based on community need, based on convenient time, capable of providing the farmers with the relevant agricultural skill/ knowledge based on practical aspect. According to the experts of office the most commonly offered courses at FTCs include Crop production and protection, Animal production and Protection and Natural resource management.

4.5.1 Process of Farmers Selection for Training

The first most essential component of the process in developing relevant farmer training program is finding out about the people to be trained and the type of training they need**.** As the survey result shows (table 4.11), in the study area the major actors who involve in trainee selection are development agent, kebele leaders and woreda cabinets. Majority (57.8 percent) of the trained respondents replied as they were selected by development agents and about 25 percent responded as they were selected by peasant association/kebele leaders. Beside, about 17.2 percent of sample respondents also replied as they selected by woreda cabinet. According to the information of interviewed woreda office experts, in most of the cases, the nomination to training is performed by DAs and kebele administration through agreement. However, the participants of FGDs reported that sometimes the disagreements between DAs and farmers also occur because of unfair selection processes. Thus, because of this unfairness in selection procedures, farmers who have good relationships with kebele administration and/or DAs are selected repeatedly.

4.5.2 Farmers Selection Criteria for Training

In the study area the trainees selected for training were based on different criteria such as farmers educational background based, model farmers based and being kebele cabinet. As it is apparently seen from the table 11, the first criteria accounting for 65.6 percent was their literacy skills(educational level), the second criteria according to trained sample respondents was their

achieved model status ,accounting for 21.9 percent, and the third criteria (12.5 percent) was being kebele kabinete. According to the data obtained from both key informants and FGDs with FTC management committee, trainees selection criteria employed at FTC level involve literacy, being model farmer who is interested in experience-sharing for colleagues and influential to persuade others to pursue his/her way of improving own life. However, most of the time, the personal relationships (political outlook, blood relationship & friendship) matter dominate over the other criteria. They also expressed the selection was male biased and female house hold heads were rarely included. As a matter of this, the selections made so far show that both male and female farmers have not participated equally in trainings.

Table 11 Responses of respondents on some aspects of training activities

1	Selection of trainees	Development agents	58	57.8
		Kebele leaders	37	25.0
		Woreda Cabinet	33	17.2
		Total	128	100.0
2	Trainees Selection criteria	Farmers educational background based	63	65.6
		Model farmers based	35	21.9
		Being kebele cabinet	30	12.5
		Total	128	100.0
3	Training areas /training courses	Crop production and protection	55	53.1
		Animal production and protection	35	21.9
		Natural resource management	38	25.0
		Total	128	100.0
4	Training methods	Class room lecture	54	59.4
		Visiting demonstration fields	27	17.2
		Group discussion	22	9.4
		Field practices and experience sharing by visiting model farmers	25	14.0
		Total	128	100.0

Source: Survey result, 2014

On the other hand, Extension agents suggested the preferred criteria for trainees' selection. They agreed that the selection of farmers was made in consultation with the peasant association leaders in identifying the farmers based on their educational level (who can read and write), agricultural performances, local socio economic status and initiatives as well. DAs also replied as they used a common manual stating these all which was sent down from the hierarchical offices. The office experts who interviewed during the study assessment also replied the trainees` criteria as the extension agents listed above.

4.5.3 Courses of Training

As it can be see the above table 11, the majority (53.1 percent) of the respondents indicated that at many times FTCs provide training on agronomy parts and 25 percent of the respondents reflected that FTCs mainly provided as natural resources related issues. The remaining 21.9 percent of respondents reported that the centers giving training on animal production and protection related courses. This result indicated FTCs were mainly concentrated only agronomy parts of the training than the other parts of trainings. This indicates that the training delivery was not well performed and mainly focused on agronomy parts.

4.5.4 Methodology of the Training

In training delivery choosing the proper teaching aids and methods of delivery are paramount important. Training methodology is the instructional styles used in imparting farmers training. Table11 displays farmers' responses on teaching methodologies used during training session in study area. In this regard class room lecture, visiting demonstration fields, group discussion, field practices and experience sharing by visiting model/exemplary farmers' field are the major methods used.

From the total trained respondents 59.4 percent were mentioned class room lecture is the dominant training methods in the study FTCs. Whereas the second commonly used teaching method was visiting demonstration fields as replied by 17.2 percent of respondents. The remaining records of the training methodologies were 9.4 percent, and 14.1 percent for group discussions, and field practices and experience sharing by visiting

model farmers` field respectively.

Thus, class room lecture was used more than other methods. This is because, as the DAs expressed, FTCs were not equipped with field training facilities and materials. In addition the areas allocated for demonstration fields were not enough to instruct farmers practically, thus the proportion of theoretical sessions becomes too much.

Moreover, the key informants and trained participants during FGDs expressed that practical training conducted in FTCs in all topics has resulted in visible improvements in performance of trained farmers` productivity and income.

4.6 Farmers' Opinion on Training Effectiveness.

4.6.1 Innovativeness of the Training Package

Adams (1994) defines innovation as any ideas or technology which is perceived as new by the farmers (user). As it is clearly presented in the table 12, majority of the respondents (79.7 percent) perceived that training given in their respective FTCS were relatively new to farmers, while the remaining 20.3 percent did not perceive it as new. This shows that the improved farm practices are more than the traditional agricultural practices. The interviewed respondents perceived that the modern farming practices are new and easy to use for the cultivation process , the farming system ,inputs and their application, management and harvesting and post harvest care of the crops. All of the interviewed respondents react that the farmers need more technical and ideal support and any advice deliver at farmer training centers.

4.6.2 Relevance of the Training to the Local Settings of the Farmers

The respondents were asked to rate their perception as to whether the content of training was relevant and applicable in their local setting. Based on the data gathered from the respondents, 76.6 percent believed that the training contents that delivered at FTCs were relevant towards farming communities and their local settings. This is consistent with the principle that, adults are relevancy-oriented; they must see a reason for learning something, as Knowles et al. (2005)

As table 12 Shows, 23.4 percent of the respondents explained that the trainings were not

relevant to the farm activities of the rural communities. During the FGDs, the participants indicated that the theories, concepts and practicality of the topics offered were related to the setting which they are familiar with.

Table12. Respondents` distribution by their perception on the major training variables

No.	Variables	Response alternative	Frequency	Percent
1	Innovativeness of the training package	Yes	83	79.7
		No	45	20.3
		Total	128	100.0
2	Relevance of the training content to the local settings of the farmers	Yes	81	76.6
		No	47	23.4
		Total	128	100.0
3	Conduciveness of the training Schedules	Yes	72	62.5
		No	56	37.5
		Total	128	100.0
4	Adequacy of training time	Yes	54	34.4
		No	74	65.6
		Total	128	100.0
5	Practicability and affordability of the training ideas	Yes	83	79.7
		No	45	20.3
		Total	128	100.0
6	Increase /change in form productivity after training	Yes	90	90.6
		No	38	9.4
		Total	128	100.0

Source: Survey result, 2014

4.6.3 Conduciveness of the Training Schedules

Proper planning of the training schedules plays a significant role in reaching majority of farmers. It will reduce the trainers' dropout rate and enhance participation. According to respondents (table 12) the training time and schedule was convenient for the 62.5 percent of the studied

farmers. While for the remaining (37.5 percent) it was not convenient. The FGDs made with the combination of DAs and supervisors also upholds this finding that flexible schedules were made by the will and agreement of the farmers'. This is evident in their explanation of how the training was planned and implemented. Accordingly, the farmers were consulted at their group level by their leaders and tentative ideas were raised was on the general meetings as to where the training time and schedule would be decided. Then with the majority vote they decide the training schedule.

4.6.4 Adequacy of the training time

The training time was short and inadequate accordingly to the data. table 4.11 indicates that the time of training was short in the last two years .It shows that 65.6 percent of the respondents perceived that the time was not adequate for the theoretical and demonstration, for practical and discussions during the training sessions of the FTCs in the Woreda. The remaining respondents (35.4 percent) agreed as the time of training was adequate. According to the information of DAs and key informants, three months are not sufficient to cover the comprehensive training topics which are highly demanded by the trainees. As they prioritized the training time was short due to the fact that three courses-plant sciences, animal science and natural resources were given on every one of training days. So, there was competitive and scarcity created by arrangement of training time. In addition, a module of six months training was intended to be finished within three months.

4.6.5 Practicability and Affordability of the Training Ideas

Table 12 above indicates that 79.7 percent of respondents believed that the ideas they have got from the training were not too hard to practice or implement on their farms. The essence of this variable is whether the trained farmers had income to buy inputs such as fertilizers and selected seeds for their farms. The response of the majority shows that the ideas were economical. Only 20.3 percent of the respondents hesitated. The lack of adequate income to purchase proper farm input is one of the constraints of farmers' productivity.

4.6.6 Increase in Farm Productivity after Training

Training contributes much to the optimal utilization of all resources and builds the skills and capacity of farmers. The effectiveness of training is measured mainly in its relevance,

innovativeness, adequacy and many more characteristics which at last lead to the said productive level. In connection with all of the above dynamics of the training, the respondents were asked to rate if there was any change related to farm productivity in last two years. As the result indicated in table 12, out of interviewed respondents, 90.6 percent replied that there was change in their farm yield per hectare. The findings of the qualitative data obtained from the interviews and FGDs also support this. Almost all of the informants agreed that, more or less, the training was effective in influencing the productivity of the trained farmers in the past two years. Only 9.4 percent perceived as there was no change related to trainings.

Another important observation during the field visit is that farmers in all sample kebele visited are ready and interested in finding ways to increase their agricultural productivity, as well as to intensify and diversify their farming systems. Innovative and progressive farmers are already using more intensive production packages and, simultaneously, they are also changing their farming systems, including double-cropping and beginning to produce different high-value crop and livestock products. Most farmers whom the researcher met with during the visit are ready for change and see the extension system as the primary source of information, training, and advisory services that can help them increase their farm household income. In addition, the interviewed respondents and FGDs participants provided and listed the following effectiveness and outcomes of training that were delivered at FTCs last two years:

- Improved habits of modern ways of farming practices
- Changed production systems to market oriented production
- Behavioral change such as increased knowledge seeking behavior
- New practice learnt and adopted such as technology assessment skills, technology adaptation and use or rejection on the basis of rational decision
- Increased collective action on voluntary basis for natural resource management,
- Ecological benefits such as improved soil and water management, improved management of communal property regimes
- Economic benefit such as improved income and saving
- Communication improvement such as farmer-to-farmer knowledge flows, two way flows of knowledge and information between farmers and DAs
- Social benefit such improved gender relations

4.7 Monitoring and Evaluation Systems and Communication between FTCs and WoARD

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. Monitoring and evaluation is not a fault finding mechanism, but rather a positive means to suggest areas requiring attention that may not be readily apparent through the regular in-field review of extension activities. (Bernor and Baxter, 1984; cited in Fisseha, 2010).

The purpose of monitoring and evaluation is to improve and achieve efficient and effective program implementation performance by providing feedback to the organization at all levels of implementation processes of a training program. Therefore, it is part of the FTC and woreda office of agriculture and rural development management information system and an internal activity, which is performed by the DA responsible for the training implementation at every level of the training program. But in the study area according to the focused group discussions, farmers indicated that follow-up activities with the trained farmers do not exist at all. The extension agents were also supported this idea.

Out of the DAs in the sampled FTCs, 33.3 percent have responded that monitoring and evaluation system to run the work activities of FTCs in the study area is good. Also 33.3 percent of the extension agents reported their mode of operating the monitoring and evaluation system as poor, and small number (8.3 percent) as very good. The remaining, and 25 percent, responded as there is no monitoring and evaluation system at all. Interviewed sample respondents also indicated that no expectations and opinions of farmers were asked and considered in the training process before, during and/or after trainings and the respondents also explained that no feedback was asked on the varieties, fertilizers, and agronomic practices similar to what is done in the study area.

According to the data obtained from woreda office experts, the poor monitoring and evaluation system of extension activities in the study areas could be due to scarce resources (funds, inadequate extension personnel, transportation, etc.) of the governments, inadequate training of extension personnel in the methods and skills of monitoring and evaluation of programme activities and the lack of clear directives from the extension service.

Table13. Distribution of DAs` response on monitoring, evaluation and communication systems

No	Items	Response alternatives	Frequency	Percent
1.	Monitoring and evaluation system of organization	Very good	1	8.3
		Good	4	33.3
		Poor	4	33.3
		Not at all	3	25.0
		Total	12	100.0
2.	Communication between FTC and woreda office of ARD	Very good	2	16.7
		Good	3	25.0
		Poor	7	58.3
		Total	12	100.0
3.	Forms of communication	written	6	50.0
		Verbal	4	33.3
		Meeting	2	16.7
		Total	12	100.0
4.	Linkages of FTCs with different development institution	Yes	—	—
		No	12	100
		Total	12	100

Source: survey result, 2014

Regarding the communication between FTCs and woreda office of ARD, 58.3 percent of DAs have responded that the communication is poor, 25 percent as the communication is good and 16.7 percent as the communication is very good. The communication was done through different forms. As it can be seen from the table 13, 50 percent of the respondents have responded that the communication was done in written form, 33.3 percent of them responded as verbal, and 16.7 percent of them replied as meeting. Also concerning about the linkages of sampled FTCs with different development institution, all of the development agents who are working in sample FTCs replied that there were no any linkages of their FTCs with other governmental and non-governmental organizations.

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

In this chapter, the brief summary of the research process, conclusion of major findings based on the research objectives, the recommendations for practice and the way forwarded for future research in the woreda are presented.

5.1 Summary of the Study

The current concerted efforts of Ethiopian government for farmers training emphasize on providing trainings in a well equipped fashion in farmers training centers at grassroots level. The establishment of FTCs in every peasant associations in Ethiopia in general and in Arbegona woreda in particular is an emerging agricultural extension strategy aiming at developing human capital through training to enhance farmers' knowledge, practical skills, and practice change for improving agricultural production and productivity .

This study was conducted in Arbegona woreda which is situated in Sidama zone at the distance of 77 Km from Hawassa. The Woreda has the potential for both crop and livestock production and classified under 'Dega' and'WoinaDega' agro climatic region. There are 18 functional and 18 sem- functional FTCs in this woreda. However, the present status and performance of FTCs in effective functioning of modern ways of farming system, transformation of new improved agricultural technology and the factors that affect the effectiveness of farmers` training centers in the study area have not been studied empirically and assessed in depth for taking appropriate action in time. Therefore, this study was condacted to assess the current performance of Farmers` Training Centers (FTCs) in relation to its structure and function, to examine the community participation on FTCs based activities, to identify opportunities and constraints of FTCs and to analyze the relevance and effectiveness of FTC based training.

To achieve these objectives, primary and secondary data were gathered from relevant sources. The descriptive method of research was utilized and the normative survey technique was used for gathering data. The questionnaire served as the instrument for collecting data. All the DAs and Supervisors working in sampled FTCs and a 28 percent representative sample of the households

were the respondents. The data collected were analyzed using descriptive statistics using SPSS 16.0 version software. The inquiry was conducted during the academic year 2014.

In the study area out of the sample FTCs, Bochessa and Wala kawado FTCs were established in 2004 where as Mikicho and Muchucho FTCs were set up in 2010. The construction design of all FTCs is not the same. Mikicho and Muchucho FTCs were lack the quality in construction. The minimum and maximum distance of sample FTCs from the woreda main town is 5 and 25 Km respectively. Majority (64.8 percent) of sample respondents replied that their residence far away 2.5-5.5 Km from FTC. On the other hand, 35.2 percent of respondents responded that their residences located below 2.5 Km from FTCs.

The resource accessibility varies between sampled FTCs. All FTCs do not fulfilled by the necessary facilities and teaching materials. Except Bochessa and Wala kawado FTCs, other FTCs do not have adequate and appropriate living quarters for staff members. All of the extension agents and supervisors working in the study area do not have transportation facilities. The entire sample FTCs does not have recommended land for demonstration fields. The finding of the study reveals that most of the farmers were participated only at the time of establishment of farmers training centers and crop cultivation at demonstration field. FTCs were guided by a committee that includes elected model farmers and representatives from women's and youth associations, in addition to the kebele head (who acts as chairman) and representatives from the cooperatives.

The criteria of farmers selection for training was made by DAs in consultation with the peasant association leaders based on a common manual which was sent down from the hierarchical offices. However, the selection was male biased and female household heads were rarely included. Concerning to training areas and methodology, the major parts of the training concentrated on agronomy aspects and according to 59.4 percent of trained respondents the training was mostly theoretically oriented .The study showed that the idea with which the farmers were trained is generally new and economically affordable to their local settings. Lacks of educated farmers who can read and write during the training were the main problems of communication.

There was poor communication between FTCs and woreda agricultural and rural development office in the study area and there were no any linkages of sample FTCs with different institutions. Weak monitoring and supervision system was the other finding of the study. All of the FTCs do not have permanent budget for FTCs.

Finally, poor construction of FTCs, the distance of FTCs from farmers residence, lack of transportation for extension agents, lack of necessary facilities and teaching materials in FTCs, shortage of demonstration areas, inactive community participation in FTCs activities, uneducated farmers during the training, unfair selection of farmers for training, poor communication between FTCs and woreda agricultural office and lack of adequate budget were affected the performance of FTCs in the study area.

5.2 Conclusion of the Major Findings

Even if the FTCs were established before ten years in the study area, they were still now not completely fulfilled the required training materials and facilities. In relation to their age, their performance was not satisfactory. There was considerable variability in the quality of buildings. Some FTC buildings were poorly constructed and will require continuing maintenance to keep them function. Improving living quarters for DAs is important as an incentive to encourage the agents to live in and spend most of their time with the community; sharing knowledge, learning local practices, and helping to solve problems.

For most of the respondents the FTC was far away and consumed much of their time. This remoteness of FTC from farmers' residence affected the participation of rural communities and reduced the performance of farmer training center. The poor level of farmers` participation in FTCs activities was one of the constraints for effective functioning of farmers training centers. All of the extension agents and supervisors working in the study area do not have transportation facilities and so, they serve the farmers by going on foot from village to village. Illiteracy among farmers, and limited funding and staff skills constrain the centers' ability to deliver training and other services. Due to unfair selection of farmers for training, the selection made so far show that both male and female farmers did not participated equally in trainings.

The study has revealed that FTC based farmers training is relevant in most of the training components. When compared to the traditional farming practices that the farmers used prior to the training, most of the respondents perceived that the training offered to them was innovative.

The training was relevant to the local setting of the farmers as the best practices of cultivation, the importance of using varieties, the harvesting and managing of cereal crops. The training schedules of the FTCs were found to be conducive to the farmers and the training time and places were set in consultation with the farmers` group leaders. The trainings which were given to the farmers in the FTCs in last two years have resulted in some positive outcomes in the productivity of trained farmers. It was found that majority of respondents admitted that they had increased their agricultural productivity due to the trainings delivered at FTCs. However, the training methodologies were not carried out as the operational manual of FTCs guideline.

The sample FTCs follows more theoretical and class lecture methods of trainings. This is due to the lack of enough demonstration fields and shortage of finance needed for demonstration activities. As 'seeing is believing', demonstration is a powerful instrument to teach and convince farmers among the extension methods especially for illiterate farmers. Bochessa and Wala Kawado FTCs effectively used their demonstration fields for multiplication of improved seeds and forage planting material. But the remaining two sample FTCs did not used their demonstration fields effectively. If these demonstration fields managed and used properly, it can serve as effective teaching/demonstration centers and at the same time generate sufficient funding to FTCs that are more sustainable, then these centers can serve the long-term needs of farmers within each kebele without being a burden on the woreda's budget.

It could be concluded from the findings of this study that lack of basic infrastructure facilities and training materials, poor level participation of community/farmers, unavailability of educated farmers for the training, unfair selection between male and female for training, methodology of training, shortage of demonstration area, farness of FTCs from farmers and DAs residence, lack of housing and transportation facilities for DAs and supervisors, lack of motivation and incentives for extension agents, weak monitoring and evaluation systems, poor communication between FTCs and woreda office of ARD and lack of linkages with other development institutions and lack of lack of permanent budget were the major constraints of FTCs in order of importance in the study area.

5.3 Recommendations

Based on the findings of the study, the following recommendations were suggested to improve the effectiveness of farmers training centers in implementing their mandatory roles.

Basic Training Infrastructure and Facilities

The results of this study indicate the existences of disparities among FTCs in facilities which may influence the relevance and effectiveness of training. Hence, there is a need to make concerted effort to capacitate the FTCs. The researcher recommends that higher quality classroom buildings be constructed and equipped for basic operational effectiveness. These would have the advantage of not only serving as a functional farmer training center but could also serve as a community learning center (such as for health extension) for each kebele. The FTC should include an office/classroom building, livestock buildings, wells, fencing, and demonstration farms (DFs), and other needed facilities. Some of the essential equipment and infrastructure needed at each FTC includes desks and chairs for the DA staff, as well as one or more tables and about 50 chairs for the classroom. Each FTC should have electricity, TVs and DVDs, and computers, so they can more effectively teach courses on different high value crops and products. Towards this end, policy makers should allocate sufficient resources to FTCs for extension education.

Community Participation

One of the main constraints identified by this study was low participation of farmers in planning, implementation, monitoring and evaluation activities in the FTCs. It is necessary that farmers should participate in the planning and implementation activities of the centers. In this study female farmers' participation is found poor. Hence, alternatives training programs should be arranged to encourage females' participation equally with males so as to improvement productivity and to solve various farming problems of females.

Illiterate Farmers

In all sample FTCs, extension agents have faced a problem in delivering the lecture to farmers, because, illiterate farmers have difficulty in reading and writing. Illiterate farmers need to be demonstrated with best practices and be able to learn practically. In addition, the government and non - governmental organizations have to launch adult literacy programs and

basic skill trainings with minimum costs for rural dwellers. The adult learning programme already started in some FTCs should be extended and strengthened.

Methodology of the Training

The FTCs operational manual indicates that the trainings should give more practical than theoretical as 80 to 20 percent ratios to make rural communities more skillful. However, sample FTCs followed training methodologies with more theoretical bases and class lecture systems of training delivery. This leads to ineffective training content dissemination to rural farmers Therefore, the FTCs should follow the operational manual of FTCs prepared by MoARD in 2009. As well as the responsible bodies should fulfill enough demonstration field and other materials to provide good practical trainings. All FTCs should have 3-5 hectares of demonstration field, for this woreda and kebelle administration should take an immediate action to arrange FTCs as a recommended. Each FTC will need initial start up funding to successfully launch the demonstration field and to make the FTC more financially sustainable over the long term. This should include sufficient operating funds to cover seed, fertilizer, labor, and other operating costs.

FTC Management Committee

The researcher recommend strongly that the AWARDO take the immediate step to establish and/or strengthen farmer committees at the FTC level, involving a broad set of farmer stakeholders (including women, youth and pastoralists) in the general operating decisions of the FTC. Each FTC should have a management committee representing all clientele groups within the community, including male and female farmers and pastoralists as well as rural young people and cooperatives (and, of course, the DAs). The kebele head would act as chairman, and the head DA as the coordinator who prepares the decision making process and manages the follow-up. Directly engaging these various rural groups and organizations in deciding on extension priorities will ensure that the DAs within each FTC are delivering needed extension programs and services and distributing any revenue generated by the DFs in a manner consistent with the FTC's development. It also enhances the ownership of the FTC by the kebele, which is important because the kebele needs to support the FTC (such as with land, labor, and materials) and farmers need to be open to the services offered.

Housing and Transport Facilities for Extension Agents

All FTCs should have adequate housing available for their DA staff, and all DAs should be required to live in their FTC housing and to keep regular hours at the FTC or in carrying out their field assignments within the kebele. The housing should include simple furniture (such as a bed, table, and chairs) for each unit. Some means of transportation should be provided for DAs by woreda ARDO so they can effectively visit the farm and pastoral households being served. When DAs gain access to these facilities and equipment, they should sign an agreement that the furniture and transportation equipment belong to the FTC and cannot be removed if they transfer or resign their position.

Improving DA motivation and retention

Strong DA motivation to serve farmers is critical to the delivery of knowledge to farmers, and field experiences show that the DA's impact on the system strengthens as tenure increases. The study also identified that the skill and knowledge of extension agents was one of the constraints that affected the performances of training related activities. DAs need better training in a number of dimensions: broader technology skills applicable to their local area, soft skills that enable them to work with different types of farmers and pastoralists in a participatory way and to catalyze the development of farmer groups, and business and entrepreneurial skills that help them run the FTCs as revenue centers and to demonstrate economic thinking to their customers. Therefore, researcher recommended that the AWARDO organization should give continous support to extension agents and improve their skills and knowledge by giving trainings to DAs.

Monitoring and Evaluation Systems

Monitoring and evaluation activities are the main instruments to improve the FTC extension services. The findings of this study indicate that poor monitoring and evaluation systems were one of the main factors that affected the performance of FTC activities. Hence, developing joint follow-up and regular evaluation activity at all levels of training and FTCs through participation of all concerned stakeholders to make the roles of FTCs more effective, to sustain their knowledge and improve practice as a whole is paramount important. Therefore, based on the findings researcher recommended that to make the FTCs more effective, responsible bodies should monitor and evaluate the centers regularly.

Improving linkages throughout the system

This paper recognizes that the linkage of FTCs with different development institutions was poor. The woreda office of agriculture and rural development has to create a strong relation with other institutions to use the FTC compounds for technologies development and popularization. The experienced extension agents have also to be supported by the woreda, zonal and regional experts to build their capacity. Every concerned stakeholder has to work in collaboration to farmers training centers for the transformation of agriculture and rural development. In this regard, if there is commitment, in the side of all stake holders the woreda has a bright future and ample of opportunities to bring about change in a short period of time. Therefore, the linkage of FTCs should be strengthen with different stakeholders for improving the status and potential of FTCs and enhancing the capability of the DAs as well as farmers at least through experience sharing from within and at most through creating suitable network with different institutions to each FTC.

Allocation of Permanent Budget for FTCs

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. Hence, to solve the financial constraint, the woreda in collaboration with different stakeholders and respective kebeles have to allocate budget and they have to search other income options, for example, revenue generation system within the FTC compounds which can be used for training farmers.

To conclude, the researcher believes that to make FTCs an excellence and information centers it is better to start with a few model FTCs and higher quality classroom buildings to be constructed and equipped for basic operational effectiveness.

Finally the researcher forwarded that the further researches has to be conducted in this study area through the studying the relevance and effectiveness of farmers training at FTCs in different aspects and to generate more information by employing both qualitative and quantitative data in order to enhance the knowledge and capability of farmers which can serve as an experience for others.

REFERENCES

Abeje. B, (2009).*The Ethiopian Extension and the Farmer: A View from the Farm*. In: Proceedings of the 16th International Conference of Ethiopian Studies,

Adams,M.(1994). *Agricultural Extension in Developing countries. Singapore*: Longman publishers PLC.

Adebabay M. and Sajjaa, N.,(2007). *Farmers training center cooperation and management* Training guide in the context of SWHISA's pilot FTC operation in six Woredas. Second draft.

Adebabay Mengist,Mesfin Astatkie, and Sajja, N., (2008). *Assessments on DAs capability in planning and delivering of training to farmers in FTC setting*.

Adebabay Mengist, Mesfin Astatkie and Sajja,N.,(2009). *Strengthening the capacity of DAs and Woreda Agricultural experts to train the farmers on modular courses in FTC. Training of Trainers, Training report*. Bahir Dar. Ethiopia.

Adesoji, S.A., A.J. Farinde and A.O. Ajayi, 2006. *Assessment of the training needs of fadama farmers for future agricultural extension work development* in Osun State, Nigeria.

Adisa, B.O. and Okunade, E. O. (2005). *Women in agricultural and rural development*. In Adedoyin, S.F. (ed). Agricultural Extension in Nigeria. Agricultural Extension Society of Nigeria (AESON), Ilorin: 69-77.

AESP (Agricultural Extension Service Process),(2009). *Community problem and need assessment survey. Linkage of stake holders and people mobilization and organization technical manual. Bahir Dar*.

Alemayehu Shishigu, (2008). *Farmers' perceptions on the effectiveness of cooperatives in disseminating agricultural technologies.* An M.Sc thesis presented to the School of Graduate Studies of Sokoine University, Morogoro, Tanzania.

Ali AL-Sharafat, Mohammad Altarawneh and Ebraheem Altahat,(2012). *Effectiveness of Agricultural Extension Activities, American Journal of Agricultural and Biological Sciences, Jordan.*

Argaw. A, (2010). *The implementation of Farmers` Training Centers on Amhara Regional State*: The case of Western Gojam Administrative Zone, An MA Thesis. AddisAbaba University, Addis Ababa, Ethiopa. 101p

Ashworth,V.,(2005). *The challenges of change for agricultural extension in Ethiopia:* A discussion paper. Federal Democratic Republic of Ethiopia, Addis Ababa, Ethiopia.

AWHC, (2012). Arbegona Woreda Health Center Annual Report, Arbegona, Yaye.

AWARDO,(2012). Arbegona Woreda Agricultural and Rural Development Office Annual Report. Arbegona Woreda, Yaye.

Bahal, R, (2004). *Agricultural Research and Extension Systems*: World Wide Study of Human and Financial Resources. Concept Publication Company: New Delhi.

Barbazette, J., (2006). *Training Needs Assessment, Methods, Tools, and Techniques*. Published by Pfeiffer, San Francisco, USA.

Belay Kassa, 2002. Constraints toagricultural extension workin Ethiopia: The insiders' view. South African Journal of Agricultural Extension. 31, 63-79.

Birhanu Gebramedhin, Hoekstra.D and Azage Tegegne, (2006). *Commercialization of Ethiopian agriculture: Extension Service from input supplier to knowledge broker and facilitator*. IPMS of Ethiopian Farmers Project Working paper ILRI, Nairobi. 33pp.

Biruk.T,(2010). *Effectiveness of Modular training at Farmers Training Centers*: The case of Mieso Woreda, Oromia Region. An MSc Thesis. Haramaya University,Haremaya, Ethiopia,152P

BoARD (Bureau of Agriculture and Rural Development), (2007). *Training on participatory extension system for experts in Amhara National Regional State of extension Department.* Bahir Dar. Unpublished.

BoARD (Bureau of Agriculture and Rural Development), (2008). *Directives and guidelines of Implementation of Modular Training at Farmers' Training Centers.* Addis Abebe. Ethiopia

Bureau of Agricultural Development (BoAD), 2012. *Annual Repor*t . Unpublished: Hawassa, Ethiopia.

Claire J.G, (2010). *Are Farmers' Information Needs Being Met*? Review of Agricultural Extension in Indi, IFPRI Discussion Paper 01048

Creswell, J. W., Plano Clark, V. L., Gutmann, M., & Hanson, W. (2003). *Advanced mixed methods research designs.* In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research.* Thousand Oaks, CA: Sage.

Creswell, John W., (2009). Research *Design: Qualitative, Quantitative, and Mixed Methods Approaches.* 3rd Edition. Los Angeles: Sage Publications.

CSA, (2007). *Population and Housing Census of Ethiopia*: Results for Southern Nations, Nationalities and Peoples' Region, Vol. 1, part.1

DoA,(2005). *Norms and standards for extension and advisory services in agriculture*: Scientific Research and Development, ISBN 1-86871-164-1

FAO, (2002). *Planning for Effective Training*: A Guide to Curriculum Development. Rome. 201p.

FAO, (2008). *Training for Agriculture and Rural Development*. FAO, Rome.

Fisseha, T.M. (2009). Problems and prospects of farmers training centers: the case of Ada'a Woreda, East Shewa, Oromia Region. An MSc Thesis. Haramaya University,Haremaya, Ethiopia,150P

Gall, M. D., Gall, J. P. and Borg, W. R. (2006). *Educational Research*: An Introduction. (8th Ed.). Longman Publishers, USA.

Gay, L. R., & Airasian, P., (2003*). Educational research: Competencies for analysis and application* (*7th Ed.).* Upper Saddle River, NJ: Pearson Education.

Habtemariam. K, (2005). *Historical Development and Current Challenges of Agricultural Extension with Particular Emphasis on Ethiopia*, working paper 2,Ethiopian Economic Reasearch Institute, Addis Ababa.

Hair, J F, Black, W C, Babin, B J, Anderson, R E, and Tatham, R L, (2006). *Multivariate Data Analysis*, 6th edn., New Jersey: Pearson Education.

IFPRI (International Food Policy Research Institute),(2007). *Strengthening Agricultural Education and Training in Sub-Saharan Africa from an Innovation Systems Perspective.*

Jamilah, O., M. S.H. Azril, U. Jegak, M. Asiah and A.N. Azman , (2010). *Can quality of work life affect work performance among government agriculture extension officers?* A case from Malaysia. J. Soc. Sci., 6: 64-73. DOI: 10.3844/jssp.2010.64.73

Janice A. Miller and Diana M. Ossineke,(2002).*Training Needs Assessment*. Training and Development Committee. New York, USA.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). *Mixed methods research:* A research paradigm whose time has come. Educational Researcher, 33(7), 14-26.

Karnataka, J. A, (2009). *Effectiveness of training for farmers on vermiculture*, Agric. Sci., 22(1): (248-249)

Kefyalew.W,(2006). *Evaluation of Farmers Training Program*: The case of Eastern Hararghe(Babile and Hundenie). An M.Sc Thesis . Haramaya University, Haramaya, Ethiopia. 41P

Knowles, M. S., Holton, E. F., and Swanson, R. A., (2005). *The Adult Learner. The Definitive Classic in Adult Education and Human Resource Development*. 6th ed.California, USA. 391p.

Leedy, P. D. (2005). *Practical Research*. Prentice-Hall Career & Technology, USA.

Lewis B. (1997). *Doing Your Research Project*: A Guide for First-Time Researchers inEducation and Social Science. 3rdEdition. Open University Press, Maidenhead, Philadelphia

Luchia, T. (2010). *Analysis of relevance and effectiveness of FTC-based training*: The case of Alamata Woreda, Southern Tigray. An MSc Thesis. Haramaya University,Haremaya, Ethiopia,130P

Marsden. D and NO. Peter, (1998). *Evaluating Social Development Projects*. Oxfam GB 274 Banbury Road, Oxford OX27DZ, UK.

Ministry of Agriculture (MoA), (2000). *Farmers` Training Centers Project Proposal*. Addis Ababa, Ethiopia, Unpublished.

Ministry of Agriculture (MoA), (2001). *The government of the Federal Democratic Republic of Ethiopia, Rural Development Policies, Strategies and Instruments*. Addis Ababa, Ethiopia.

MoARD (Ministry of Agriculture and Rural Development), (2005). *Agricultural Technical Vocational Education and Training (ATVET) program*: course catalogue A.A, Ethiopia.

MoARD (Ministry of Agriculture and Rural development), (2008). *Guideline on scale up and scale out of agricultural technologies*. Addis Ababa, Ethiopia.

MoARD. (2009a). *DAs and FTC data at national level*. Addis Ababa, Ethiopia.

MoARD. (2009b). Farmers` Training Centers Operational Manual/Guideline. Addis Abeba, Ethiopia.

MoFED (Ministry of Finance and Economic Development).(2007). *Ethiopia: Building on Progress: A Plan for Accelerated and Sustained Development to End Poverty (PASDEP*). Addis Ababa, Ethiopia.

Myers, M. D., and Avison, D., (2002). *Qualitative Research in Information Systems,* London: Sage Publications

Nigatu .A, (2010). *Farmer training centres and the IPMS programme in Ethiopia.*

Okwu, J.O. and Ejembi, A.S. (2005). *Essentials of a successful farmer training programme in Agricultural Extension in Nigeria*. Proceedings, 10th Annual National Conference, AESON, 14th-17th June, 2005:1-5.

Ousman Surur,(2007). *Effectiveness of agricultural development training program . The case of Tef and livestock farmers of Alaba Woreda*, Southern Ethiopia. An MSc Thesis presented to School of Graduate Studies of Haramaya University. Ethiopia: 106-108.

Phillips, D. C., (2004). *Is mixed methods research an epistemological oxymoron*? Paper presented at the annual meeting of the American Educational Research Association. San Diego, CA.

Pitchai, C., (2005). *Benefits of training. Cooperative extension and training*. Department of cooperative. Faculty of dry land agriculture and natural resource. Mekelle University. Ethiopia. (Unpublished)

Rogers, E.M., (2004). *Modernization among peasants*. Rinchart and Winston, INC, New York.

Sinkaiye, T., 2005. *Agricultural Extension Participatory Methodologies and Approaches in Agricultural Extension in Nigeria*. AESON, Ilorin.

Spielman, D. J., M. Negash, K. Davis, and G. Ayele. (2006). *The smallholder farmer in a changing world*: The role of research, extension and education in Ethiopian agriculture. Ethiopian Strategy Support Program (ESSP) Policy Conference Brief No. 12. Addis Ababa, Ethiopia: International Food Policy Research Institute (IFPRI) and Ethiopian Development Research Institute (EDRI).

Sprinthell, J. et al., (1999). *Research Design and Methodology*. *Journal of Accounting Education, 16(3–4),* 429–461.

St.Marry University College, (2006). *Human Development Report*, Introduction to development perspective UNDP.

Stephen L.,(2000). *Principles of Adult Learning*. South Mountain Community College from VISION, Fall. http://teach-usda.ahnrit.vt.edu/principles of adult learning /pdf. Accesed on Sept. 24, 2009.

Swanson, B. (2009). *Changing extension paradigms within a rapidly changing global economy.* Paper presented at the European Seminar on Extension Education, Assisi, Italy.

Terrefe, B.(1992). *Farmers' Training Programs with Special Emphasis on Residential Farmers Training centers in Ethiopia.* An M.Sc thesis presented to University of Reading.

Tesfaye, L. (2008).*A report on appraisal of dairy and forage innovative system*. Unpublished paper.

Thomas, T (1991). *Aspects of soil degradation and conservation measure*s in Agucho catchment, West Hararghe.Soil Conservation Research Project Report. University of Bern, Switzerland

Wentling, T. L., (1992). *Planning for effective training*: A guide to curriculum development. Rome: FAO.

Wuletaw.M, (2010). *Effectiveness of modular training at farmers` training centers*: the case of fogera district, Amhara National Regional State. An MSc Thesis. Haramaya University,Haremaya, Ethiopia, 106P

World Bank, (2006). *Linking agricultural innovations to knowledge sharing in Africa*. IK Notes, No. 88

YICDOL (Yardstick International College of Distance and Open learning), (2008). Fundamental of training. Training methods and techniques, module 1. Addis Ababa. Ethiopia.

Zeleke, W.M., (2000). *Study on Functional Literacy Programme for Agricultural and Rural Development in Ethiopia*, Addis Ababa.

APPENDICES

Appendix 1: Survey questionnaire

Dear respondents: I am student in Arba Minch University in post graduate program in **Geography** department specialized Masters of Science on Land Resource Management and I am conducting a survey on **Problems and Effectiveness of Farmers` Training Centers in Arbegona woreda** . The basic objectives of this survey is to collect tangible information on the present status of FTCs, the opportunities and constraints in effective functioning of FTCs, the significance and effectiveness of modular training in improving the knowledge and practices of farmers` at FTCs and to assess farmers` participation on FTCs based activities. The outcome of this research will help to understand the current status and constraints of farmers` training centers and its effectiveness on trainings. This questionnaire has only a research purpose. I confirm you that all data will be treated confidentially. Your correct and honest response is crucial for the accomplishment of the research work. Therefore, I kindly request your cooperation in filling out the questionnaire correctly and honestly.

Thank you for your cooperation and taking your time to respond this questionnaire!

Part1. Interview schedule for Sample Respondents

General Instructions to enumerators

1. Make brief introduction to each farmer before Starting the interview
2. Please make sure that the interviewee has fully understood the objectives of the interview and the information s/he gives will be confidential.
3. Please ask each question clearly and patiently until the farmer understands gets your point
4. Attempt all items and questions
5. Please write / fill only respondents' feeling and reply (do not put own opinion)

1. General information

Code No_____ Kebele/FTC _____Date of interview_____

Name of interviewer _____Signature _____

1.1 Name of respondent_____

1.2 Sex: a) Male b) Female

1.3 Age (in years): A) 18-28 B) 28-38 C) 38-48 D) 48-58 E) above 58

1.4 Educational status: A) Illiterate B) Read and Write C) Grade 1-4

D) Grade 5-8 E) Above grade 8

1.5 Marital status: A) married B) single) C) widowed D) divorced

1. Family size: A) 1-3 B) 4-6 C) 7-10 4) above 10

1.7 Total land holding in ha A) Below 1 B) 1-2 C) 2.1-3 D) above 3

1.8 How much distant is found your house from FTC in Km? A) Below 1 B) 1-2.5 C) 2.5-4 D) 4-5.5 E) above 5.5

2. Information about the current status and capacity of FTCs

2.1 When the FTC was established/ constructed in this kebele? _____

2.2 Does the FTC at function? Yes ☐ , No ☐

2.3. Are you one of the participants in FTC activities? 1) Yes 2) No

2.4 If yes, in what area you mainly participated in FTC services?

1) by contributing labor and construction materials
2) Guarding FTC resources
3) By accepting different technologies
4) In planning and implementation

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

1) Lack of awareness about the duties and responsibilities
2) Lack of commitment to participate
3) Lack of trust regarding to the services

2.6 What are the major services delivered by the centers?

No	Types of services	1) Yes , 2) No
1	Training center	
2	Information center	
3	Transform new technologies	
4	Consultancy service center	
5	Promotion center of improved technology	
6	Conference activities	
7	Other institution activities	
8	Others(specify)	

2.7 How many extension agents exist at present in your center?

A) One B) Two C) Three D) More than three

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

Yes ☐ No ☐

2.9 Are the DAs interested/ motivated to work with farmers? Yes ☐ No ☐

3. Training related questions

3.1 Who has selected / recruited you for the training? A) DA(s) B) kebele leaders

C) Woreda expert(s) D) Others (Specify)……

3.2 What are the criteria for trainees' selection? A) Based towards educated farmer B) Model farmer focused C) Being kebele cabinet member D) Others(specify)…….

3.3 In what training areas FTCs delivered training? A) Crop production and protection

B) Animal production and protection C) Natural resource management

3.4 Which training methodology the center mainly used?

A) Class room lecture B) Visiting demonstration fields (result and method demonstration)

C) Group discussion D) Field practices and experience sharing by visiting model farmers

E) Other (specify):_____

3.5 What are the proportion /mix of practical to theoretical training?

A) Balanced B) More theoretical C) More practical D) Not identified

3.6 Was the training schedule selected suitable for you to attend the training?

Yes ☐ No ☐

3.7 Was the training schedule/time conducive for you? Yes ☐ No ☐

3.8 Was the time given for the training adequate? Yes ☐ No ☐

3.9 Was the training`s contents that are delivered at FTC have relevance (significance) to your need and farming practices? Yes ☐ No ☐

3.10 In that (those) training(s) you had taken, please, do you think the ideas though were new and desirable in your setting? Yes ☐ No ☐

3.11 Do you think the things you have learned were economically practicable and affordable to you? Yes No

3.12 Has your farm productivity/yield increased after the training? Yes ☐ ☐

3.13 If the training was effective in producing the desired outcomes and impacts please provide the effectiveness: _____

_____

_____

Part 2.Questionnaires to be Filled by DAs and Supervisors at Sampled FTCs

1. General Instruction

- Please, choice your options from a given alternatives and write the answer for the space provided.
- attempt to answer the total questions
- If necessary, please feel free to answer in Sidamic, Amharic or English language.
- Your answer will be kept confidential

1. Personal information of DAs

1.1. Name of DA _____

1.2. Age _____

1.3. Sex: Male _____ Female _____

1.4. Marital Status: A) married B) Single C) Divorce D) Widowed

1.5. Education level: A) Secondary school B) Certificate C) Diploma D) Degree

1.6. Field of Study/specialization at Diploma level? A) Plant science B) Animal science

C) Natural science D) Animal health E) others (specify)

1.7. Work experience in agricultural sector _____ years?

A) below 1 B) 1-3 C) 4-6 D) 7-10 E) above 10

2. General information concerning the present status of FTCs

1. Name of FTC _____ kebele _____,

2. Year of FTC establishment _____ E.C.?

3. Distance from Woreda town _____ km?

4. Materials used for constructing the wall of FTC?

a) Block and stone b) wood c) corrugated iron d) other (specify)

5. How many farmers does the FTC accommodate at one time during training session? _____

6. How many farmers were trained so far? Total_____, Male_____, Female_____

7. How many farmers graduated with "Green Certificate" _____

8. In your view what is the present status of FTCs?

1) Functional 2) Semi-functional 3) Non-functional

9. How much the distance of FTC will influence farmers to attend training program?

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

10. Do you have enough demonstration areas for training farmers practically? Yes ☐ No ☐

10.1 If yes, how many hectares of land do you have?

A) Less than one B) 1-2ha C) 3 ha D) 4 ha E) 5h F) more than 5

10.2 If No, how do you train farmers in practice? A) By taking to the field of private farmers

B) By taking to research centre C) by taking to the nearby modern private or state farm

D) No other choice than theoretical teaching

10.3 Do the plots allocated for demonstrations are suitable? Yes ☐ No ☐

11. Type of services given by the FTC a) _____, _____

_____, _____

12 Which teaching methods did you use for training farmers in FTC?

A) Class room lecture B) Visiting demonstration fields

C) Group discussion D)Field practices and experience sharing by visiting model farmers

13. From the above methods which was profitable for training farmers?

a) _____ b) _____

14. How many staff members and extension agents working in FTC? _____

15. Is there housing facilities for all FTC staff members? Yes ☐ No ☐

16. Is there a guard service to protect and manage FTC? Yes ☐ No ☐

17 Is there an organized body who manage the works of FTC?

Yes ☐ No ☐

16. Do the communities participate in FTC activities? Yes ☐ No ☐

17. Is there a permanent budget for FTC? Yes ☐ No ☐

18. Do you think the budget allocated to you is enough to carry out the training program and other mandatory roles of FTC? Yes ☐ No ☐

19. Do you have the following infrastructural facilities? Is it sufficient for effective functioning of FTC?

No	Infrastructure and Facilities	Yes	No	Remarks /Amount	No	Training materials	Yes	No	Remarks /Amaount
1	Class room				1	Chalk			
2	Office				2	Computer			
3	Workshop				3	Television			
4	Store				4	Telecommunication			
5	Exhibition hall				5	Demonstration field			
6	Residence for DAs				6	Marketing center			
7	Shelf				7	Blackboard			
8	Chairs				8	whiteboard			
9	Tables				9	Information board			
10	Toilet				10	Rain gage			
11	Clinic				11	Metrology station			
12	Electricity				12	Others/specify			

20. If No, what are the problems related to training materials in FTC?

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

B) Lack of Knowledge how to develop these materials

C) Misuse / in efficient use of materials

D) Lack of electric power to use audio visuals

21. How do you see the downward, upward and cross ward communication between FTC and Woreda office of ARD and other organizations?

A) Poor B) Good C) Very good D) Excellent

22. What are the forms of communication?

A) Verbal B) written C) meetings

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

A) Excellent B) Very good C) good D) poor

24 Does your FTC have linkage with different development institutions? Yes ☐ No ☐

25. If yes, with which development institutions do have a linkage?

A) Research centers B) Co-operatives C) NGOs

D) Investors E) other/specify

26. In general how do you see the linkage of your FTC with other development institution?

A) Very good B) Good C) Fair D) Poor

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

Yes ☐ No ☐

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

A) Bicycle B) motor Bicycle C) horse/ mule D) others specify

29. If no, how do you serve your farmers?

A) By going on foot B) By private means of transport

C) By Public transport D) Others (specify

30. In your view what is the present status of FTC? A) Functional B) semi-functional C) Non functional

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

a) _____ b)_____

32. What are the opportunities and constraints (social, institutional and economic) of FTC in effective functioning in this kebele? Pleas rank the following items the degree of severity of the problems that could affect the effectiveness of farmers` training centers.

1. Inactive participation of community to FTCs activities
2. Lack of farmers who can read and write
3. Lack of infrastructural facilities and training equipments
4. Lack of practical agricultural training on improved technology
5. Farness of FTCs from DAs and farmers` residence.
6. Fear of most farmers to accept and implement FTCs services
7. Lack of adequate operating budgets
8. Absence of organized body to manage the works of FTCs
9. Lack of transportation and communication facilities
10. Lack of understanding of the problems and needs of farmers
11. Lack of monitoring and evaluation systems

33. If you have other additional suggestions please explain? _____

Part 3.Questionnaires for woreda officials and SMSs

1. General Instruction

- Please, write the answer for the space provided below.
- attempt to answer the total questions
- If necessary, please feel free to answer in Sidamic, Amharic or English language.
- Your answer will be kept confidential

1. Background information

1.1 Name of Organization _____, Woreda _____, Zone _____, Region _____

1.2 Name of respondent _____, Sex: Male_____, Female_____

2. Regarding to the Present Status of FTCs

2. When the FTCs were started in this woreda? _____

3. How many FTCs are functional _____

4. How many FTCs are semi- functional _____

5. Number of FTCs which are not functional_____

6. Number of FTCs which have fulfilled the necessary facilities for the teaching learning process _____

7. When the modular training was started in this woreda? _____

8. How many farmers have taken the modular training last two years? Male _____ Female_____ Total _____

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

_____

_____

10.How farmers' trainings are organized, implemented, and evaluated?_____

_____

_____

11. List the training courses commonly offered to farmers at the centers?
a _____,b)_____,c)_____

d) _____ f) _____

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

13. What change do trainings bring in farmers' work productivity and outcomes?
_____

_____

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

a) _____ e) _____

b) _____ f) _____

c) _____ g) _____

d) _____ h) _____

15. What are the significances and effectiveness of FTCs regarding to the farmers` training?

a) _____

b) _____

16. What are the opportunities and constraints (social, institutional and economic) of FTCs in effective functioning in this woreda?

_____

4. Check Lists Questions for Focus Group Discussions with DAs

General Checklist for Study of Current Performance of FTCs

Part One

- Farmers` Training Centers (Year of construction, Material(s) for construction, availability of basic infrastructural facilities and training materials, objectives/purposes, total land area (km), opportunities and constraints, major services offered)
- Farmers` participation for FTCs activities, areas of participation
- Trainees criteria for training(who, age, gender, education background)
- Methods of training(practical, theoretical, class lecture, farm visit)
- Monitoring and evaluation, feedback, communication, linkages
- Estimated distance from the FTC to woreda town in Km.

Part two

1. What are the activities delivered by the centers to the farmers within the kebele?

2. How many farmers does the FTC accommodate at one time during training session?

3. How do you think the visiting and support of DAs for farmers directly?

4. How do you see the overall participation of farmers in the area regarding to the FTCs activities

5. How do you see the provision of the training program in FTC?

6. How do you see the living conditions of trained farmers as compared to non-trained farmers?

7. What problems did you faced or considered in the learning- teaching process while you were attending the training?

8. What are the critical supports (technical, financial) you think required from the government and non-government organization?

Table 1: The status of FTCs in the study woreda

No	Items	Responses
1.	Total number of FTCs in study woreda	36 (18 functional;18 semi-functional)
2	Total number of sampled FTCs	4(2 functional;2 semi-functional)
3.	Year of establishment	2 FTCs in 2004; 2FTCs in 2010
4.	Building Materials of FTCs	Stone, wood and corrugated iron
5.	Capacity of a class to hold the trainee	30 trainee
6.	Number of stuff members in FTCs	3 DAs
7.	Number of management committee	5 persons
8.	Amount of budget allocated for FTCs	Insufficient
9.	Minimum distance from woreda town to FTC	5
10.	Maximum distance from woreda town to FTCs	25

Table2 .Result of a Reliability test

Reliability Statistics

Cron-bach's Alpha	N of Items
.899	38