

**PROBLEMS AND PROSPECTS OF FARMERS TRAINING
CENTERS:
THE CASE OF ADA'A WOREDA, EAST SHEWA, OROMIA REGION**

M.Sc THESIS

By

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**AUGUST, 2009
HARAMAYA UNIVERSITY**

**PROBLEMS AND PROSPECTS OF FARMERS TRAINING CENTERS:
THE CASE OF ADA'A WOREDA, EAST SHEWA, OROMIA REGION**

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MASTER OF SCIENCE IN AGRICULTURE
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**AUGUST, 2009
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HARAMAYA UNIVERSITY**

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DEDICATION

This Thesis is Dedicated to, my father, Ato Teshome Mengistu and to my aunt husband, Ato Aemayehu Dejene whom I lost them in May 19, 1970 and October 20, 1985 E.C., respectively. Even though, they are physically gone, they are always in my heart. They are the ones who laid the foundation of all of my life at my early stage of childhood. I wish again to dedicate this work to my aunt w/ro Yewobedar Mengistu and to my mother w/ro Senayehu Kidane for nursing me with affection and love and for their dedicated partnership in the success of my life.

STATEMENT OF AUTHOR

I declare that this thesis is my own work and that all sources of materials used for this thesis have been duly acknowledged. This thesis has been submitted in partial fulfillments of the requirements for an M.Sc degree at the Haramaya University and is deposited at University Library to be made available to borrowers under rules of the Library. I solemnly declare that this thesis is not submitted to any other institution for the award of any academic degree, diploma, or certificate.

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BIOGRAPHICAL SKETCH

The author was born on May 16, 1958 in Dire Dawa town of the then Awraja of Harerge province, the present Dire Dawa Administrative Council. He attended his elementary school at Kersa woreda of East Harerghe zone and Junior and Secondary school at Dire Dawa in Lega harre and Prince Makonen Comprehensive Secondary School respectively. He joined Awassa Junior Agricultural College (under Addis Ababa University) and graduated in Horticulture in 1977. After giving a long service in Ministry of Agriculture and Rural Development, he joined Haramaya University as a Mid-Career student and graduated in Agricultural Extension in 2003.

He was employed by Ministry of Agriculture in 1977 and worked at various places and capacities in Oromia region and Federal MoARD. He has served as the head of Ameya woreda office of Agriculture(1977-1980); crop production and protection junior expert at Chebo and Gurage Awraja/Welisso(1980-1981); a trainer of horticultural crops at Agarfa Farmers Multi-purpose Training Center(1981-1991); a junior Woreda expert of agronomy, horticulture, extension and head of woreda office of Agriculture at Adami Tulu and as a guest trainer at Ardita and Holeta ATVET colleges(1992-2005), and senior extension communication expert (March, 2005-2009). Altogether, he has served for thirty one (31) years in the Ministry of Agriculture and Rural Development. He is married and blessed with two sons.

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Last, but not least, I am also grateful to BoARD especially to Terifu Hedeto from extension department who was currently working as a research extension and development actors linkage officer for his collaboration in filling a questionnaire for the study. I owe debts to all Ada'a woreda staff of Agricultural and rural development office heads, SMSs, supervisors and development agents and the farmer respondents who participated in the study for their cooperation and kindness in sharing their experiences.

LIST OF ABBREVIATIONS

ADLI	Agricultural Development Led Industrialization
AEAs	Agricultural Extension Agents
AIDS	Acquired Immune Deficiency Syndrome
AIDEP	African Institute for Economic Development and Planning
AFMPTC	Agarfa Farmers Multi Purpose Training Center
AMC	Agricultural Marketing Corporation
ATVET	Agricultural Technical Vocational Education and Training
AWARDO	Ada'a Woreda Agriculture and Rural Development Office
BBM	Broad Bed Maker
BoARD	Bureau of Agriculture and Rural Development
DA / EA	Development Agent / Extension Agent
EARO	Ethiopian Agricultural Research Organization
EC	Ethiopian Calendar
EU	European Union
FAO	Food and Agricultural Organization
FHHs	Female Headed House holds
FRG	Farmers Research Group
FTC	Farmer Training Center
Ha	Hectare
HHs	House Holds
HIV	Human Immunodeficiency Virus
ILRI	International Livestock Research Institute
IPMS	Improvement of Productivity and Market Success
KMs	Kilo Meters
masl	meter above sea level
M&E	Monitoring and Evaluation
mm	millimeter
MoA	Ministry of Agriculture

Contd . . .

LIST OF ABBREVIATIONS (Continued)

MoARD	Ministry of Agriculture and Rural Development
MoI	Ministry of Information
MMP	Minimum Package Program
NGOs	Non Government Organizations
PA	Peasant Association
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
PLW	Pilot Learning Woreda
PPS	Probability Proportional to Size
RCBP	Rural Capacity Building Project
SMSs	Subject Matter Specialists
SNNPR	Southern Nations and Nationalities Peoples Region
SPSS	Statistical Package for Social Science
TVET	Technical Vocational Education and Training
UNESCO	United Nation Education Science and Cultural Organization
VEW	Village Extension Worker
WIC	Walta Information Center

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**PROBLEMS AND PROSPECTS OF FARMERS TRAINING
CENTERS:
THE CASE OF ADA'A WOREDA, EAST SHEWA ZONE, OROMIA
REGION, ETHIOPIA
ABSTRACT**

Ethiopian agriculture is characterized by traditional and subsistence peasant farming whose access to modern technology and basic education is very limited. It is also noted that low investment in developing agriculture labor force are one of the problems that hinder the transformation of the sector. Agricultural change and development require the mobilization and development of human resource through such means as education and technical training. Realizing the importance of educating and training the rural community the government has formulated rural development policies and strategies. The cornerstone of the government's strategy is the establishment of FTCs in about 18, 000 kebeles and the recruitment, training and deployment of number of front line extension agents who teach farmers at FTCs. Starting 2004 upto 2008, 59, 348 extension agents have been graduated and 8500 FTCs have been constructed. However, the status of FTCs and the constraints that hamper them in implementing their mandatory roles are not systematically assessed through empirical studies to take proper action. The objectives of the study were to assess the present status of FTCs, to identify opportunities and constraints of FTCs and to know the opinion of farmers towards the mandatory roles of FTCs in Ada'a woreda, East shewa zone, Oromia region. For this study 160 house hold heads from 16 FTCs were selected through simple random sampling technique and personal and group interviews. Fourty (40)extension agents from 16 FTCs were also included as source of information for the study. Data were collected from both primary and secondary sources. The method of data collection employed includes interview schedule, self-administered questionnaire, focus group discussions and personal observation. The data were analyzed by using simple descriptive statistics such as percentage, frequency, mean, standard deviation, rank correlation and z-test. Qualitative data were analyzed through interpretation and conceptual generalization. Moreover SWOT analysis was done to summarize the results of the research objectives. The findings revealed that the organizational and operational status of FTCs was poor. The woreda has ample opportunities and potential for the advancement of FTCs. The major constraints identified by the respondents were low community participation, high dropout rate, non- extension work load, lack of budget, lack of training materials and high expectations of benefit in the side of farmers. Therefore, the woreda should take into consideration the socio-cultural, institutional, economic, and general constraints that hinder the implementation of farmer training centers.

1. INTRODUCTION

1.1 Background

Ethiopia is one of the oldest nations; agriculture has been practiced here for some 11,000 years (FAO,2008). Ethiopia is endowed with natural resources, especially in agriculture, which sustained its inhabitants for thousands of years without receiving any technological support from outside (Habtemariam, 1997).

Ethiopia has some 10 million small holder family farms that produce over 95% of agricultural output. Agriculture provides employment to 80% of the economically active population. On average the sector contributes nearly 50% of GDP. Within agriculture, about 64% of value added comes from crops, 23% from livestock and 13% from forestry. Agriculture constitutes mainly cereals (83%) pulses (12%) and oil seeds (5%). Ethiopia has the largest livestock population in Africa. Crop and livestock management is dominated by traditional systems. Approximately, 37% of farmers are estimated to use inorganic fertilizer. Improved seeds (mainly wheat and maize) are used by approximately 13% of farmers. Cereal yields at around 1151kg on an average are reasonable but productivity per labor unit is very low. Poverty and hunger in Ethiopia are pervasive. Some 45% of the rural population is classified as poor. Nearly two-third of adult are illiterate, of which 68% of them are women. Women continue to suffer periodically from the disastrous consequences in almost all aspects of life. The spread of HIV/AIDS is counteracting gains in human development and has the potential for serious social dislocation especially in rural areas (World Bank, 2003 as cited in Vince, 2005).

In the history of Ethiopian agriculture, it is only recently that development interventions began to penetrate into rural areas with the aim of improving the life of the people. Especially, after the second half of this century, various extension intervention programs have begun either in the form of fully fledged programs or as pilot projects. Unfortunately, the impacts of all of these development interventions were not given

much significance in terms of improving the life of the rural population in general and the mode of farming and productivity in particular (Habtemariam, 1997).

Ethiopian agriculture is characterized by traditional and subsistence peasants farming sub-sector whose access to modern technology and to that of basic education is very limited. It is also noted that low investment in developing agriculture labor force is one of the problems that hindered the transformation of the sector. Despite these desirable characteristics, however, the sub-sector generates the bulk of the total agricultural output of the country (MoA, 2000).

Agricultural change and development requires mobilization of human resources through such means as education and technical training. Agricultural education and training are key elements in the whole process of agricultural change and the achievement of rising levels of rural prosperity. It can function effectively only if the national system of education as a whole is geared effectively to the needs of development. Agricultural education and training can succeed in their objectives only when integrated into an overall development programme. The training programme must be shaped to meet the needs of the farmers. Identifying and meeting the needs of the particular community requires trainers familiar with and acceptable to the people among whom they work for. The most important characteristics of the good multipurpose trainers are those of maturity and ability to inspire confidence (Assefa, 1991).

There is no blue print as to how best to develop functional FTCs that are able to make a difference to productivity, profitability and sustainability in smallholder agriculture. Then, periodic systematic assessment and learning to make continuous improvement will be needed for human resource development for agricultural commercialization and rural transformation, particularly to enhance the knowledge, skills and attitude of producers through FTCs.

Hence, to create relevant, responsive, practical and impact-oriented FTCs, any agricultural development activities that the government has to launch must be greatly

considered from the farmers' point of view in terms of extension services and training activities (Terrefe, 1992).

Even if, the history of agricultural extension in Ethiopia reviewed was limited to the last century, Ethiopia enjoys a rich experience of a large number and variety of agricultural and rural extension approaches tried by government agencies and civil society bodies during the last several decades. Some of them exhibited more visible positive impact than others, but all of them brought to attention some serious weaknesses and problems during the course of their implementation. These strengths and weaknesses of various approaches need to be kept in view while chalking out any extension strategy for the country (FAO, 2008).

Agricultural sector must assume greater importance. People involved in agriculture need improved skills, information, and ideas in order to develop an agriculture that will meet complex demand patterns, reduce poverty, and preserve or enhance ecological resources. Extension has an important role to play.

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.

Realizing the situation the government designed to assist the agricultural technical vocational and educational training program since 2001/2. The objective of the program is to create and develop human resources and institutional capacity that would have a desirable precedence over medium and long term capacity building strategies of the country. Based on this, the program is aimed to produce middle level skilled competent and motivated agricultural practioners who would in turn be potential teachers and/or development agents at each farmers training center (MoA, 2000, MoARD, 2006).

The establishment of farmers' training center is a part of the agricultural technical vocational educational program. It is envisaged to establish about 15,000 to 18000 farmers training centers throughout the country (one in each existing development center) over the next five years until 2010. Each training center would give training for 60 farmers in one in-take. The duration of training also vary depending on the type of module, the maximum time limit would be 6 months. The training would be carried out in non-boarding basis and directed towards specific fields of agriculture. Farmers would be awarded a green certificate upon completion (MoARD, 2005). Under this program the syllabus is structured with over 80 percent practice and 20 percent theory. 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 will have access to agricultural extension services during the PASDEP period (MoARD, 2006).

According to the proposal (MoA, 2000), the objective of every farmer training centers is to create farmers, who are business oriented, environmentally conscious, can make use of modern technologies and produce quality farm products. In order to achieve the above mentioned objectives, the role of farmers training centers would be:

- To give specialized training this enables the farmers to get "Green certificate."
- To provide agricultural extension services.
- To provide computer and tele services.
- To provide information on market price standards.
- To provide advisory service on entrepreneurship.
- To serve as permanent exhibition center.

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. Until 2000 E.C, more than 7000 FTCs have been constructed and out of these 3644 FTCs have started functioning in the country. In addition 360 FTCs are under construction (MoARD, 2008).

Based on Agricultural Extension and TVET Directorate (MoARD, 2008) data, starting from 2004 up to 2008, 52,230 male and 7118 female all together 59,348 extension agents have been graduated and at present 13178 are on training in eight ATVET colleges which are under the federal MoARD in different agricultural disciplines.

The information obtained from Oromia region BoARD, also indicate that as 1881 FTCs have been already started functioning by fulfilling the necessary facilities for the teaching-learning process and 1131 FTCs are waiting for the fulfillment of facilities. Based on the information in the last two years 8268 male and 356 female, altogether 8624 farmers have taken short term training. The total hours allocated for short term training was 144 hours.

In addition, some 109 farmers' training centers built at a cost of more than 4.3 million birr in East Shewa zone of the Oromia state have gone operational. The training centers would have the capacity to train more than 13,000 farmers in Plant science, Natural resource, Animal development as well as other fields annually. They would also have significant contributions to ensure food security of farmers through enhancing productivity. Based on the information of the Zonal office of Agriculture and Rural Development, 20% of the budget for the construction of the centers was covered by the public while the remaining was covered by the state government. In the last two years 25,320 farmers have become beneficiaries from the 211 farmers training centers built in 11 woredas of the zone. In the study woreda also 27 farmers training centers were established in every peasant association. However, their present status and problems in effective functioning has not been systematically assessed so far.

Therefore, the present study is 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 and to know trained and untrained farmers opinion towards the mandatory roles of FTCs in Ada'a woreda, East Shewa, Oromia region.

1.2 Statement of the problem

As the main stay of the Ethiopian economy is agriculture, currently our government is following ADLI and rural centered development policies and strategies. To enhance agricultural transformation and rural development the strategy calls for human resource development to create modern farmers in rural areas. To realize the implementation the strategy, it was envisaged to establish 18,000 FTCs one in each PAs throughout the country and training of extension agents who teach farmers at FTCs. So far 8500 FTCs have been established throughout the country and some of them have started functioning, although their current status is not known. In spite of the presence of nearly 60,000 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 general in Ethiopia in particular in Oromia the performance of FTCs have not been studied empirically and assessed in depth for taking appropriate action on time.

Concerning the drawbacks of FTCs (Kefyalew, 2006) in his report expressed on the need for further study of FTCs as "at this juncture, thousands of FTCs were constructed and even the time they were supposed to start the intended activity has delayed. Hence, not to repeat the past problem, a nationwide evaluation of past and present training of farmers and its impact should be assessed and the centrally prepared curriculum of FTCs should be revised".

On the other hand,(Osman , 2007)in his report recommended gradual expansion of FTCs, by stating the problem in such away " even though 1500 FTCs have been established in different woredas of the region (SNNPR) since the past three years, farmers trainings have not been started not only, because of lacking equipment and materials, but also from lack of clear idea on how to proceed the trainings ."

Therefore, in view of the above statements the researcher is motivated to focus his study on the assessment of the status and problems of FTCs that are influencing their training programs and mandatory roles in Ada'a woreda, East Shewa zone, Oromia region.

1.3. Research questions

The study will answer the following research questions

- what is the present status of FTCs in relation to its structure and functioning ?
- what are the opportunities and constraints of FTCs in the study woreda ?
- what opinions farmers hold towards the mandatory services provided to them by the FTCs?

1.4. Objective of the study

The general objective of the study is to assess the status of FTCs in relation to its structure and function to see the translation of government FTC strategies, into practice.

The specific objectives of the study are:

1. to assess the present status of FTCs in the study area ,
2. to identify opportunities and constraints in effective functioning of FTCs in the study area, and
3. to know farmers opinion towards the mandatory services provided by FTCs.

1.5 Significance of the study

The finding of this study will provide first hand information to government and non government organizations about the status of FTCs, existing gaps, and their major constraints which prevent them to operate effectively. These findings will be helpful especially for ministry of agriculture and rural development in planning and decision making concerning FTCs in the future. It also serves as a baseline for further study.

1.6 Scope& Limitations of the study

So far, there is no research work done related to non-residential farmers training centers in the country. It may be difficult to support the work with empirical studies. The study

had limitations of coverage of area and population, due to the obvious constraints of time and resource. The study was by no means exhaustive. This study is a piece of effort to identify realities regarding problems and prospects of farmers training centers. It is important to note that the country is diversified in agro-ecological, nation, nationalities, ethnicity, socio-economic, cultural and institutional environment and the study being location specific in nature, its results could not be generalized.

The study is confined to one Ada'a woreda only. Moreover, the coverage is limited to 16 FTCs and 160 farmers and 40 extension staff respondents. Therefore, the findings cannot be generalized for the entire zone. The results will be solely based on the responses of the extension staff, farmers and observation of studies. However, the recommendations and policy implications of the study can be used for other areas of similar contexts and as a basis for further studies. The research also faced a problem in getting extension agents of some FTCs and in filling questionnaires due to the tendency of expecting payment. Transportation was also another problem which limited the researcher to assess the status and to cover all FTCs on time.

1.7. Organization of the thesis

This thesis consists of five chapters. The first chapter deals with the back ground, 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. Methodological issues including description of the study area are presented in chapter three. The fourth chapter presented the results of the study and their interpretation. The final chapter summarizes, concludes and presents policy implication and recommendations.

2. REVIEW OF LITERATURE

2.1. Education and Development

2.1.1. FTCs as a means of enhancing rural development and agricultural transformation

Extension education is an applied behavioral science the knowledge of which is applied to bring about desirable changes in the behavioral complex of human beings usually through various strategies and programs of change and by applying the latest scientific and technological innovations. The objectives of extension education are the expressions of the ends towards which our efforts are directed. In other words an objective means a direction of movement. Before starting any program, its objectives must be clearly stated, so that one knows where to go and what is to be achieved. The fundamental objective of extension education is the development of the people (www.krishiworld.com, 2008).

Training farmers or education for development is one of the numerous activities that need to be carried out by development organizations. Though the significant role played by farmers in providing agricultural products is well understood by the developing countries, the problem of food self sufficiency is still a great challenge to many of them. To resolve such problems, some of the activities carried out by the developing countries are provision of agricultural inputs and training, especially transferring technological information to the farmers (Terrefe, 1992).

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 (2001), 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 (MoI, 2001).

In the document of a plan for accelerated and sustainable development to end poverty (MoARD, 2006) concerning FTC program it states that the core function of FTCs will be provision of extension services through training and demonstrations and also serve as information and exhibition centers.

On the necessity of training and active participation for success in any rural development endeavor. Bari noted the following.

“For effective rural development, participation of rural people in the development process is essential. But people cannot participate unless they have been motivated or made aware about the changes they need for their welfare. As such training and education is playing a vital role to make the rural people aware and act as subjects

in the development process (Bari, 1987).”

Agricultural education and training constitute only one factor amongst many in agricultural development. The availability of trained farmers and trained advisory personnel will not in itself create or produce anything. In addition there must be land, with the security of tenure necessary for long term planning, there must be a system of marketing which ensures steady and favorable prices, there must be a continuous improvement of agricultural techniques, increasing the quality and quantity of yields, there must be social services available to the rural community. All these factors combine to form a suitable climate for development of agricultural production (Markham, 1965). Tito, 1997 as cited in Swanson (1997) noted that extension is a weak instrument when it stands alone, but that it becomes a powerful when combined with price incentives, input supply, credit, seed multiplication and so forth.

Habtemariam (2007) also stressed on the importance of looking different factors in combination as:-

In general it must be clear that extension alone cannot bring about the desired level of development in the agricultural transformation processes. Some of the salient issues determining the effectiveness of an extension system, that call for the attention of extension policy makers, researchers, practioners and producers among others include:-

- Policy and legislative provision;
- Conducive input- output marketing system;
- Resource availability;
- Conducive transport and communication system;
- Management efficiency;
- Recognition and ability to identify, characterize, map, strengthen, and use local innovations and indigenous knowledge;
- Availability, access and usability of scientific knowledge or information and
- Cultural and socio-economic factors including the ability of the farming community to change its attitude towards new practices and ways of doing things, about behavioral change and improve its situation (Habtemariam, 2007).

According to (Arnon, 1981) if efforts to transform subsistence agriculture are to be successful, the following four related functions have to be simultaneously developed:

- (a) New technology has to be generated, implying an effective research organization;
- (b) The new technology has to be rapidly transferred to the farmers, requiring an efficient system of education;
- (c) The essential incentives and conditions have to be provided, in order to motivate the majority of the farmers to change their methods of production and to enable them to do so successfully; and
- (d) An appropriate strategy for promoting the entire process must be devised and implemented (Arnon, 1981).

The main contribution of general education to increased agricultural productivity is summarized by Tang, 1961 as cited in Arnon (1981) as follows:

1. It provides farmers with the basic skills.
2. It improves rationality -making it easier to overcome traditional, social or cultural constraints which hinder progress.
3. It increases inquisitiveness and thereby improves receptivity for new ideas opportunities, and methods.
4. It changes values and aspirations, and there by strengthens the will to economize, and facilitates the adoption of new techniques.

There had been a continuous debate about what the relationship between education and development and whether one is a prerequisite for the other. Coombs (1985) states that, education is one of the essential requisite for human beings continued advancement towards a more powerful and equitable world. However, he warns education is not a development objective in its own right, but a powerful and necessary means for achieving other development objectives when properly designed and implemented to develop confidence.

There is a continuous evidence to show that there exists a relationship between human resources development and improved standard of education; and their relationship is so

strong that illiteracy and insufficient education have hampered the development efforts of Third world countries (Sheffield, 1972; Fagerlind and Saha, 1989).The need for education therefore, emerges from the fact that through education constraints of development can be eliminated or at least be minimized.

Education is a lifelong process and is not confined only to formal schooling. Coombs and Ahmed (1974) classify education in the following manner:

(a) **Informal education:** A lifelong learning process by which individuals acquire knowledge, skills, and attitudes from their environment. Though generally unorganized it is the source of the bulk of life-time learning for people.

(b) **Formal education:** An educational system in which there is a chronologically graded hierarchical system of education, administered in centralized institutions such as schools, colleges and universities.

(c) **Non-formal education:** Any organized systematic educational activity carried outside the formal educational framework to provide selected types of learning for certain groups. The program includes farmers training programs, adult literacy programs, and various community and occupational skill training programs.

If educational development is to be implemented in rural areas, emphasis needs to be given to non-formal education. Non-formal education, which is sometimes called 'out of school education 'is closer to the concept of training. There is an argument that non-formal education, because of its wider scope of programs, aim to serve people of any age and background and nature of being pragmatic, is advantageous as compared to formal education (Addis, 1991).

Extension education is generally the main, if not the only agent for farmers' education in developing countries, and is a specialized form of the broader concept of adult education (Arnon, 1981).

FAO defines agricultural extension as 'an informal out-of-school educational service for

training and influencing farmers (their families) to adopt improved practices in crop and livestock production and management, conservation and marketing , concern is not only with teaching and securing adoption of particular improved practice , but also with changing the outlook of farmers to the point where he will be receptive to, and on his own initiative continuously seek, means of improving his farm business and home (Chang, 1962).

2.1.2. Adult education

Adult education is one of the basics for farmers training. Like most terminologies in education, there are problems with defining adult education. Adult education usually refers to any form of learning under taken by or provided for mature men and women outside the formal schooling system. The main targets are specifically defined as youth (girls and boys over 15 years of age, but sometimes younger) as well as women and men, generally poor or socially disadvantaged. Although literacy continues to be at its peak, adult education also includes “numeracy”, problem-solving and life skills and other knowledge. The notion of adult education is often used interchangeably with other notions such as literacy, adult basic education, lifelong learning, continuing education, adult non-formal education, recurrent education (Seya, 2005).

The role of adult education in development is multi dimensional. Indeed, as one of the building blocks of human development, and not just a basic right, education including adult education, is a foundation for progress in areas such as human capital, health, nutrition and the development of institutions and democracy. Adult education also plays a major role in social development. It is now widely admitted that growth will not reduce poverty unless poor people are able to actively participate in it. It is apparent from the foregoing statement that adult education is an indispensable vector for social, economic and political progress in any society, and in particular in Africa, the least developed part of the world.

The developmental potential of adult education has been summarized by UNESCO as follows. “Despite challenges and constraints (adult) basic education empowers

individuals because it opens avenues of communication that would otherwise be closed, expands personal choice and controls over one's environment, and is necessary for the acquisition of many other skills. It gives people access to information through both print and electronic media, equips them to cope better with work and family responsibilities and changes the images they have of themselves. It strengthens their confidence to participate in community affairs and influence political issues. Basic education is the key with which individuals can unlock the full range of their talents and realize their creative potentials. It gives disadvantaged people the tools they need to move from exclusion to full participation in their society. Basic education also empowers entire nations because educated citizens and workers have the skills to make democratic institutions function effectively to meet the demands for a more sophisticated work force for a cleaner environment, and to meet their obligations as parents and citizens"(UNESCO, 1997: as cited in Seya, 2005).

From the above statement we can see the setting of education can be formal or non-formal while the whole aim being to bring a change in acquisition of knowledge and attitudes. It aims to make the masses better informed; thus to change their attitudes. Research has provided strong evidence that basic education makes a contribution to the reduction of poverty in rural areas. A minimum of four years of basic education, which addresses literacy and numeracy as well as science and possibly agricultural education, can lead to an increase in agricultural productivity by up to 8%([www. World agroforestry center.org](http://www.worldagroforestrycenter.org) , 2009).

Adult learning has its own goals in relation to rural development. This is because in order to achieve the best results local people need to be aware of their real situation and be determined to change it by their own action by mobilizing all available resources.

Another important point to consider in adult training is handling adults as groups. Reminding us that adult education carried out in a group can be a great help towards achieving learning or inhibit learning, Rogers(1988) states that 'the teacher of adults needs to balance the usefulness of the group against the growth of individualism,

describing action and self reliance”.

Bembridge also explained the importance and some characteristics of farmer discussion groups in this manner. “Discussion involves the sharing of ideas and experiences. Opinions are expressed, alternatives, discussed and action is planned. In groups people can and will take risks that they would be unable to take alone. The focus should be on the performance of group members and not on individuals”. (Bembridge, 1989).

Concerning adult education, many scholars have expressed their views at different times. For example, Markham (1965) noted that, “The learning should be informal, with numerous demonstrations and practice of the method taught. Visual aids are desirable. The best of which is good farming (both on the training center’s farm and on neighboring farms) the very items themselves used in agriculture, flannel graphs, models, and specimens. The use of sophisticated aids in adult farmers’ training should only be practiced by very experienced people and then on a limited scale”.

Fay (1962) has also expressed his view as “ Adults learn most rapidly when they have a strong desire to learn. Adults learn best when they have a clear goals. Adults learn when they put forth an effort to learn. Adults learn best when they receive satisfaction from what they have taught”.

Therefore, in extension education in a democratic system, participation of the people in extension programs is voluntary. The people have complete freedom whether or not to join an extension program. The behavior of the people has to be changed not by ordering or coercing, but by educating and motivating them. Unless the people are convinced, unless they get good results, unless they are satisfied, they should turn their faces away from extension (Singh, 2001).

The basic philosophy of extension is directed towards changing the outlook of man by educating him. The only way to secure the intelligent and whole hearted cooperation of a person is to educate him. Education is not a mere transfer of information. It is more than

that. Its primary aim is to transform the people by bringing about desired changes in their knowledge, attitude and skills. If this has not happened then the activities chosen for extension are not educational and its effects cannot be long lasting. The fundamental objective of extension is to develop the rural people economically, socially and culturally by means of education (*ibid*).

2.1.3. Education and training

It is well known that the ideas of farmer education and training are basic to the theory and practice of agricultural extension in most parts of the world. There are some who even think of extension solely in terms of education. There are differences and similarities between training and education. It seems hard, however, to find out significant differences between training and education in practice (Terrefe, 1992).

Howe (1985) assumes the terms ‘training’ and ‘education’ as the same, often used interchangeably making a distinction between training and education is nevertheless very important for curriculum development. Overall education and training are complementary and courses of education and schemes of training should be planned jointly to achieve the closest coordination of both processes.

Ely (1985) also addressed the interrelation of training and education. He suggests five points in the form of comparison as indicated below:

- a) Education belongs in schools and so does training. Both education and training belong in business, agriculture, industry and government settings;
- b) The result of training is more immediate than the result of education, which tends to be less measurable;
- c) The instructional developer can contribute to the curriculum development both in education and training;
- d) Education is usually general and theoretical, while training is more specific and practical;
- e) Education and training are both important. By maintaining the importance both training and education, Ely (1985) says, “We plan training with education in mind,

and vice versa”.

Training is the process of providing knowledge and skills and bringing about desired changes in attitudes in order to improve the competence of people being trained .The goal of training is to improve performance. Education also provides knowledge and skills and brings about changes in attitudes. However, training differs from education in a number of ways. Training is short term, narrowly focused and specific, usually designed to meet a specific needs and has immediate application. Whereas education is long term, broadly focused, and usually aimed at preparing people for the future (Youdeowei and Kwarteng ,1995).

Phases of 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 affect 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; planning, implementation and evaluation.

Planning Phase

The planning phase encompasses several activities, two of which-training needs assessment and curriculum developments are very important.

Implementation phase

Once the planning phase of training program is complete, then it is time to implement the course. Implementation is the point where a trainer activates the training plan, orit is the process of putting a training program into operation.

Evaluation Phase

Evaluation is a process to determine the relevance, effectiveness and impact of activities in light of their objectives. Raab *et al* (1987) define training evaluation as “ a systematic process of collecting information for and about a training activity, which can then be used for guiding decision making and for assessing the relevance and effectiveness of various training components “.

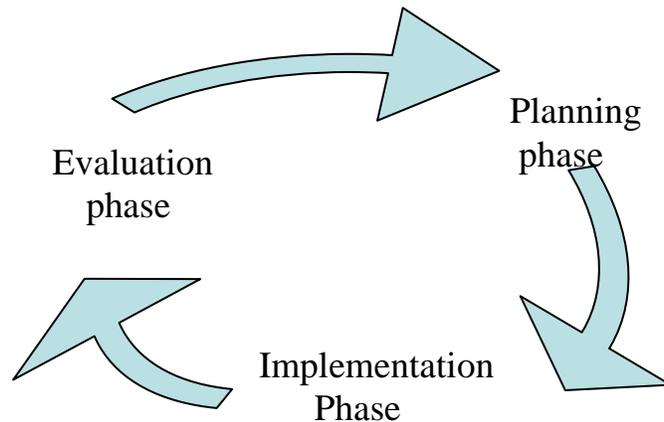


Figure 1. Training cycle

Lele (1975) classified training programs in rural areas into five broad Categories:

- Functional literacy as to broaden the participation of local people,
- Non-agricultural vocational skill including handicrafts, artisanship, and small business.
- General training for rural needs: including the training for lower staff of Agricultural extension, nutrition and community workers.
- Women's training program in home economics, nutrition and child care and other domestic skills,
- Farmers training in improved agricultural practices.

FAO (1975) classifies the training of farmers into the institutional training types; which differ mainly in the nature of the place of learning and duration.

1. **Institutional training:** characterized by a training period from 3-15 days and carried out by subject matter specialists in residential areas. The program is designed to train local farmers and rural women.
2. **Non-institutional training:** carried out in situ. Farmers learn through demonstrations, peripalatic training and discussions groups. However, a review of farmers training by FAO in 1980 identified that the "Major methods of farmers' training in developing countries" we find that there are about Fourteen types of

farmer training programs:

- a) Correspondence: sometimes called 'training at distance' deals with agricultural apprenticeship for adults and young would-be farmers.
- b) Demonstrations: It is the most common type and is associated with preparing farm plots with necessary inputs. The plots serve both for a method and result of modern means of achieving production.
- c) Residential centers: common in East Africa, it is where farmers take short courses on agricultural production.
- d) Mobile unit: It is employed in less accessible areas of scanty rainfall regions such as where nomads and pastoralists live.
- e) Farmer visits: It deals with the exchange of ideas and experiences of farmers of adjacent areas.
- f) Communication Technologies: A latest method is related with teaching farmers and extension workers on better agricultural techniques, family planning and nutrition .The uses of videos, tape recorders and radio programs to reach the target population.
- g) Farmer training: used to train mostly farmers representatives in better technologies of crop and animal production .Though the advantage of training farmers' representatives could facilitate the adoption of improved skills and easy to approach the broad masses through the representatives, it has been found that the representatives have come to be the beneficiaries of the results .
- h) Farmer cooperatives: Deals with provision of extension services to farmers and pastoralists in cooperatives.
- i) Research projects: It is related with training of extension workers in actual production of new crop varieties and how to demonstrate in the fields .The aim being to link research with training and extension at field levels.
- j) Extension centers: They are agricultural units established by government to serve as vaccinations centers for animals, distribution centers for farm inputs, experimental and demonstration stations and training centers for farmers, women and youth.
- k) Mass education campaigns: Using radio and television, printed materials on relevant topics, a group of farmers discuss on the topic so as to relate the new knowledge to their

own situation.

l) Work study teams: serve both as production enterprises and centers of skill training and of education training going on the farm.

m) Group farming: It is a technique of extension applied to more a group than approaching individual farmers.

n) Pilot villages and communes: Employed in the republic of Korea, it is related with training of farmers during off-season period for gainful occupations to increase income, and establish small scale industrialization in rural areas.

Different types of education and various ways of categorizing training have been discussed earlier. However, the major link between non-formal education, adult education and training is that they are related with life-long education, which develops the potentialities of people that we cannot find in formal schooling. Such learning situations help to build more stable attitude and improve the knowledge and skill of the members of society and make them fully participatory in the rural development process going on within their environment (Addis, 1991).

2.2. Requirements for effective training in FTCs

Extension is an educational process for bringing about the maximum number of desirable changes among the people which involves both learning and teaching and needs some tools or methods commonly known as extension teaching methods.

‘Learning is the process by which an individual, through his own activity, attains a change in his behavior. It is an active process on the part of the learner. The essential role of an extension worker is to create effective learning situations.’

An effective learning situation requires the following essential elements.

1. An instructor (an extension officer or a village level worker).
2. Learner (the farmers, the farm women and the youth).
3. Subject–matter / Agricultural messages and information (the recommended improved practices such as the seeds of high yielding varieties, fertilizer, technological packages, skills

necessary for certain practices and actions, that lead to change in attitude).

4. Teaching materials such as flannel board, blackboard, charts, models, samples, slides, film stripes, CD etc
5. Physical facilities, such as sitting accommodation, good visibility etc.

Teaching is the process of arranging situations in which the things to be learnt are brought to the notice of the learners, their interest is developed and desire aroused, that is, encouraging them to be stimulated for action (www. krishi world. Com , 2008).

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

2.2.1. 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). 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 and Rogers, 2004 as cited in Samson, 2007).

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

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 extensionist, 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).

An efficient extension organization needs to develop the capability of responding to changes in relation to its environment. Extension organizations have to cope with changes within and outside the organization, such as changes in farm technology, communication methods, needs of farmers, rural situation, export and import of farm produce, and market economy. Organizational development allows for planned changes in the organization's tasks, techniques, structure, and people. Attitudes, values, and practices of the organization are changed so that it can cope with changing situation. The employees also gain greater skills to deal with new problems (Vijayaragavan and Singh , 1997 as cited in Swanson , 1997).

2.2.2. 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 Swanson, 1997). 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 clientele, 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 , 1997).

2.2.3. 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 (Warren, 1997 as cited in Swanson , 1997).

The main actors in the teaching-learning process at FTCs are the extension agent's. The teachers at FTCs should be well experienced and competent enough with good personal qualities. On the importance of quality, many scholars have expressed their views at different times. Marshall (1920), mentioned that "knowledge is our most powerful engine of production." Supporting the view, Roling(1988) said that "working through people as an extension communicator requires professional skill and insight which must be underpinned with knowledge". Spicer (1986) expressed that, "changing peoples' customs is an even more delicate responsibility than surgery." Esman(1980) noted that professionally qualified people, even when available, resist placement in rural areas; and when they are drafted into such assignments they often are so lineated from the majority of their rural publics and so ill-equipped to work in a resource poor situation that they are

unable to provide effective or responsive services .

White (1986) stated that "we find many common deficiencies in knowledge and ability on the part of extension agents." In most developing countries college education had been confined largely to persons coming from urban families' .Men of such background who are employed as extension agents are largely a product of book learning.

The short coming of many extension agents are reflected in the comments obtained in the course of interviews with 45 farm household heads chosen at random in five barrios (small villages) in the Philippines about the extension workers assign to each barrio (Byrnes, 1969 as cited in Arnon, 1981):

- a) He is too young compared to the majority of the farmers and so is not too experienced in Matters of farming (27/45).
- b) He uses technical language we cannot understand very well (33/45).
- c) He goes by the book and not on what is really happening in the field (17/45).
- d) He is not very sure sometimes of what he is advising us to do (33/45).
- e) He cannot answer many of our questions.

As Chaudhary and Al-Haj(1985) a common barrier to effective extension work is the extension worker's lack of competence in such important areas as technical knowledge, farming skills, economic analysis, research procedures and communication abilities. Also (Byrnes and Byrnes, 1971) have indicated areas of competence in the same way by adding the social aspect that is, extension worker must be familiar also with the customs, values and way of thinking of the farming population he serves.

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).

In countries that are at the initial stages of their development the extension workers performance is more crucial. In other words in a developing country with the majority of farmers being not able to read and write, farmers will depend entirely on the extension worker.

2.2.4. Selecting appropriate teaching materials and training methods

Teaching materials are teaching aids used during training to facilitate effective communication and learning. They are particularly useful in the agricultural technology transfer process, where they serve as essential tools in agricultural extension for training farmers. 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 (Youdewei and Kwartteng, 1995).

Appropriate teaching and training is vital for Third world development. The real development that is needed has to establish the capability and skills necessary to sustain change .This requires the transferring of ideas, skills, information and ways of working that allow their own countries in their own way.

Development needs to be rooted in the society not something that leaves with the end of the project or expert. The problems of communicating and training with people in developing countries are central to development. It requires extra resources and appropriate techniques and media if the problems are to be solved and development to work. Both old Chinese saying and modern research agree that we forgot what we hear, we remember what we see but we understand what we hear, see and do. Materials support the talking, support the seeing and support the doing involved. One rule of thumb to remember is that all training material should be as close to the needs, realities and level of the target(s) as possible (Zeitlyn, 1992).

The extension-teaching methods are the tools and techniques used to create situations in which communication can take place between the rural people and the extension workers. They are the methods of extending new knowledge and skills to the rural people by drawing their attention towards them, arousing their interest and helping them to have a successful of the new practice. A proper understanding of these methods and their selection for a particular type of work are necessary (www. kirishi world.com, 2009).

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. Selecting an appropriate training method is perhaps the most important step in training activity once the training contents are identified. There are many training methods, but not all of these are equally suitable for all topics and in all situations. To achieve the training objective, a trainer should select the most appropriate training method for the content to involve the trainees in the learning process. Four major factors are considered when selecting a training method: the learning objective, the content, the trainees and the practical requirements (Abdul Halim and Md. Mozahar Ali, 1997 as cited in Swanson , 1997).

2.2.5. Incentives and motivation to extension agents

The bureaucratic structure of extension administration, lack of rewards and incentives, poor facilities, poor promotional avenues, and the low esteem given to extension are the major causes of poor motivation and morale (Vijagaragavan and Singh, 1997 as cited in Swanson, 1997). 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 .Extension organizations in Asia and Africa countries have a poor reward system (Swanson, *et al*,1990). Among many of the government departments, the agricultural department and the extension service have a low public esteem and poor pay structure(*Ibid*). Incentive and motivation to extension personnel plays a great role in the efficiency and effectiveness of extension services (Bahal, 2004).

The evaluation study of Bembridge (1989) confirmed that "The extension officers self esteem, which is assumed to be a function of past success or failure is an important motivational factor. Many of the middle level and junior extension officers interviewed saw themselves as having low status in the community. For example, they saw school teachers as having higher status than themselves. Possibly this because they did not perceive their own role as adult educators. Reason given for the lower status held were inferior salaries, lack of recognition, inadequate training and lack of transportation."

Along with other incentives, better housing and other facilities to be provided to the extension personnel posted in the rural areas.

VonBlanckenburg (1984) 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.

2.2.6. Adequate training for extension staff

The village extension worker (VEW) is the only extension worker who teaches production recommendations to farmers. He is just as specialized and professional as other extension workers. The responsibility of all other extension staff is ultimately to make the VEW more effective in his work. The VEW should attend special short courses from time to time. These may include one or two day pre-seasonal and orientation workshops held by district staff on particular agricultural topics. As agriculture becomes more specialized and complex, there is a continual need for more highly trained and specialized VEWs. Village extension workers without university education should be sent for degree studies. In that VEWs will stay in the department of agriculture for thirty years or more (Bernor and Baxter, 1984).

Terrefe(1992) also expressed his view on development agents as "the development agents(DAs) are the link between the farmers and ministry of agriculture and rural

development .That is to say DAs are the actual front line field staff of MoARD at grass roots level. They communicate with the farmers and convey any feedback to the staff of the ministry. However, there is a great concern whether we have really the right people trained as development agents who are well equipped with basic practical/technical skills, extension/communication techniques. Considering the majority of the DAs, many believe that we do not have the right people for the challenging task of assisting the farmer to identify his/her own problems and find solutions for. I also strongly share this view.

Ames (1989) noted that "if the investment in trained man power is limited or lacking, information may never be utilized". Schultz (1981) reported that for developing highly productive economy only natural resources, physical capital and raw labor are not sufficient. Dynamics development requires a wide array of human skill.

Clark (1987) mentioned that "the effectiveness of the educational programs of extension depends on the abilities of its professional and volunteer staff. Continued professional development must become a priority of extension is to remain a viable source of information for changing world".

2.2.7 Amount of work to extension agent

The efficiency of extension agents decline when they have to look after among educational & non educational activities. The task of teaching farmers suitable technical practices and convincing farmers to try them is not easy. Hence, the VEW must receive intense support and guidance, and must not be burdened with non-extension functions. Moreover, the nature of his work and his achievements must be recognized personally and in terms of opportunities for professional growth and technical upgrading (Bernor and Baxter, 1984).

It is clear from the literature that non educational tasks are diverting considerably resources from extensions primarily role. Re allocating these resources to full time educational responsibilities would increase extensions effectiveness in transforming traditional agriculture (Bahal, 2004).

Not all extension is directly related to agricultural knowledge transfer. FAO found that extension personnel in developing countries spend about one quarter of their time on non-educational activities representing “about 140,000 full-time equivalent years of extension personnel time”. “FAO regarded this as a “major loss of educational resources, especially in developing countries where extension coverage is still grossly inadequate, both in a quantitative and qualitative terms”(Swanson *et al*,1990).

Under a favorable work environment, the Village Extension Worker (VEW) is expected to be a teacher, facilitator, organizer, coordinator, and catalyst and communication specialists. This is mainly true if and when extension organization sees extension as an educational process. In contrast, the role of VEW may be seen as enforcer or regulators, tax collector, politician and various other non educational roles. The implications of these two situations are very clear situation the extension worker may find it difficult to win the confidence and cooperation of the farming community, for they may be label him/ her as a government authority or bureaucrat, unconcerned, about their real needs. However, the agent may be very productive as inform, and advice rural people (Bekele, 2004).

Belay in his report mentioned that over the years, the involvement of extension agents in non- extension activities has played against their reputation as development workers, many people in rural areas continue looking the extension agents as government prolocutors rather than facilitators in the rural development endeavor. Therefore, if agents are to spear head rural transformation in the country, their duties should be clearly defined and they should not be made to handle other responsibilities that will compromise their real professional integrity (Belay, 2002).

2.2.8 Financial resources

According to Von Blanckenburg (1984) "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, Evengon 1988 as cited in Bahal, 2004) reported that; 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).

Many observers are concerned that public extension is not doing enough, not doing it well, and is not always relevant. In developing countries, bureaucratic inefficiency and poor program design and implementation have led to poor performance and incoherent links with client farmers and the research sector. Support for extension declined in the 1980s and donors were unwilling to fund large scale public sector recurrent expenditures, which led to further under financing, staffing shortages, and contraction of extension services(Amanor and Farrington,1991).

Howell(1989) noted that "it is now generally agreed that corrective action should consist of increased investment in extension (particularly in recurrent costs) linked to reforms in managements and training".

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.

2.2.9. National agricultural policies

National policies of agricultural research and extension play an important role in the development process. (Dutia, 1990 as cited in Swanson, 1990) mentioned that "achieving the long run educational and development goals of extension requires continuity in

political and financial support and the institutionalization of the extension function. Extension can perform its role in development only when a favorable environment for its operation is created".

Maalouf ,1990 as cited in Swanson(1990) notes that, "An indispensable point for effective and efficient extension work is a national extension policy incorporated in legislation. Such a policy specifies the objectives, clientele, funding arrangements, place of the extension within the government structure, its functions and linkages with other governmental and non- governmental services for agricultural and rural development.

By realizing the contribution of agricultural sector for the country, the government has adopted agricultural Development Led Industrialization (ADLI) which is planned to play a greater role in the improvement of small holders and industrialization based on utilization of domestic raw materials with intensive labor. As agriculture is the back bone of the economy, it is being taken as the starting point of initiating the structural transformation of the economy (MoA, 2002).

The PASDEP national five year plan, concerning FTC program it is stated that “ In the coming five years these FTCs will be equipped with all the necessary facilities such as teaching materials, workshop implements, computers connected with woreda net program etc. The training at the FTC will focus on two major categories: modular training and farmers training on agricultural extension packages.

- a) **Extension package training:** Training on agricultural extension package is short-term training provided to all farmers for mass mobilization in the area of agricultural extension package programs, which includes minimum and household packages. For the implementation of the minimum package training each FTC will give training to 190 farmers’ annually in four rounds and 10,393,380 farmers will have access to such training at the end of the planning period. Similarly each FTC will give training and intensive extension services to 50 farmers in the house hold extension package program annually.

b) **Modular training:** - modular training is specialized training for farmers above grade four (4) working in agriculture owing land. Each FTC will train 60 trainees in one round per year for a period of three months (two days in a week) and the total number of farmers trained over the planning period will be 2,952,540

With regard to the extension service it is envisaged that all farmers will have access to agricultural extension services during the PASDEP period. The approach will be through organizing farmers into groups and the group leader will serve as a contact farmer. The pastoral mobile extension service will follow the seasonal movement the pastoral communities based on wet seasons, dry season grazing areas and base camps.

All agricultural extension activities will give due emphasis to gender integration. Throughout the planning period all of the female headed households, estimated at 2.69 million will access extension services and an estimated 30% of the women in male headed households will also get access to training and extension services in the type of extension packages that will benefit them(MoARD, 2006).

2.2.10. Monitoring and evaluation

The Global consultation on Agricultural extension observed that monitoring and evaluation are important yet frequently neglected functions in most organization. In the worldwide survey of national extension systems, it was found that only about one half of all national extension systems have some type of monitoring and evaluation capacity. In many cases the monitoring and evaluation units is weak and is limited to ad hoc studies. In many organizations, monitoring and evaluation have a negative image because these units may concentrate on problems, exposing weaknesses and failures. Instead, monitoring and evaluation should be used in a positive manner to improve extension's performance and increase its efficiency (Misra, 1997 as cited in Swanson, 1997).

Monitoring and evaluation is a management tool that can contribute significantly to effective extension. Monitoring keeps track of extension activities and progress in the

implementation of the extension system. Evaluation determines the impact of extension activities, particularly on the production and income of farmers. Reporting of all monitoring and evaluation must be done concisely and quickly if it is to be of use to management.

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. It can create an atmosphere of trust, honesty, and self-criticism upon which effective extension depends (Bernor and Baxter, 1984).

2.3. Conceptual framework

In solving a problem or charting a course of action several sorts of information may be needed. These data may be gathered through assessment and evaluation methods (Best, John W, & James V. Kahn, (1998). Evaluation of a program is a process to determine the relevance, efficiency, effectiveness, impact and sustainability of the activities in light of their objectives. Evaluation is a systematic process of obtaining relevance information and interpreting data to facilitate decision making. Evaluation can take place at any point in time in a training program. In general, evaluation serves four purposes (Ahman and Glock, 1981; Sedre, 1965 as cited in Osman, 2007)

- Appraisal of the achievement of the individual;
- Diagnosis of the learning difficulties of the individual trainees or a group of trainees;
- Appraisal of the effectiveness of a training program, curriculum, training materials, procedures and organizational arrangements; and
- Assessment of the progress to help understand training problems and develop sound Policy.

Therefore, training programs and projects are evaluated from different angles and

viewpoints.

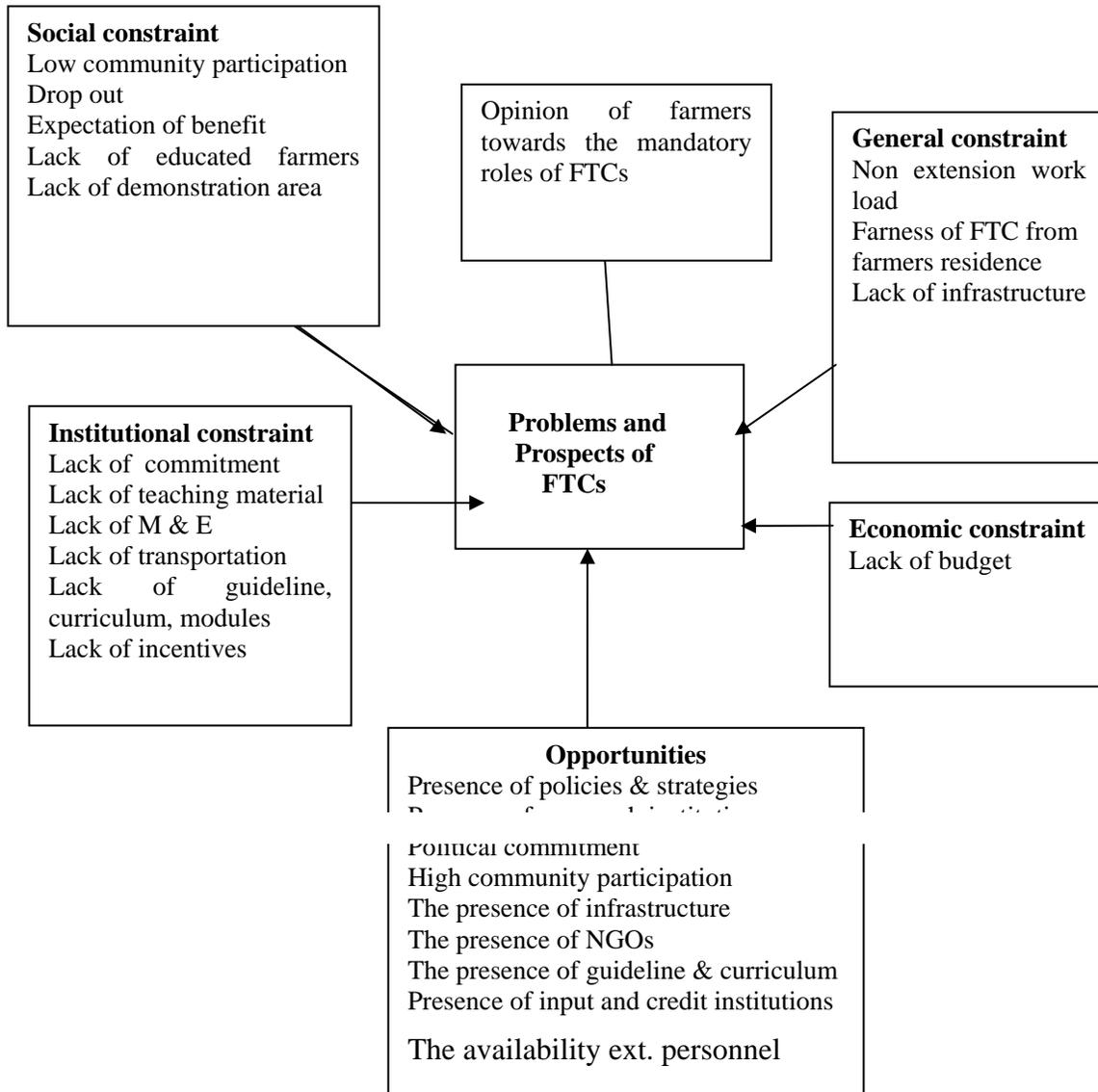


Figure 2. Conceptual frame work diagram

3. RESEARCH METHODOLOGY

The first section of this chapter describes and illustrates some aspects of the study area. Then it presents the detail of methodology used to conduct the survey. These are sample and sampling techniques, method of data collection and data analysis.

3.1 Description of the study area

The study was conducted in Ada'a woreda. Ada'a woreda is one of the 11 woredas in East Shewa zone and is located about 45 KMs south east of the capital Addis Ababa. It is bounded by Lume woreda in the East, by Akaki woreda in the West, by Bora and Liben-Zukala Woreda in the south and by Ginbichu Woreda in the north. The total land area of the woreda is 96,680 hectares and out of this, 79,517.32 hectare of land was under cultivation.

Based on the census carried out recently, the total population of the woreda is estimated at 231,385. The total number of the rural population is 131,273 and out of the total rural population 68,381 are male and 62,892 are female. The total number of rural house hold is 28,900(420 female and 28,480 male). The total number of urban population is 100,112 and out the total urban population 47,936 are male and 52,176 are female (AWARDO, 2009).

There are 27 PAs in the woreda and in all of the PAs the construction of FTCs have been carried out. Among the 27 FTCs, 16 of them are semi-functional and the rest are not yet fully operational. Currently there are 40 male and 25 female altogether 65 development agents and 9 supervisors in the Woreda who serve the rural community. Recently the Woreda agriculture and rural development office was restructured into three work process based on Business Process Re-engineering (BPR). The three work processes are extension, natural resource and input supply (AWARDO, 2009).

The woreda is divided into three agro-ecology zones; that is, dega 3%, woina dega 94%

and kola 3% respectively. The Woreda has the potential for both crop and livestock production, which is mainly undertaken by small holder farmers. There are also relatively growing number of commercial farms and agro-processing industries operating in the area. The agro-ecology in the woreda is best suited for diverse agricultural production.

There are a number of rivers and creator lakes that are being used for irrigated agriculture, particularly for horticultural crop production. The woreda is nationally known for its best quality teff production, which dominates the agricultural production system. Teff is a dominant cereal crop which occupies about 45% of cultivated land. It is followed by wheat 43%, chickpea5% and others occupy 7 % (AWOARD as cited in Alemayehu, 2008). Other major crops produced in the woreda include lentil, horse bean and horticultural crops mainly vegetables. Livestock is an integral part of the production system. The livestock population of the woreda in 2007 was 291,539 (AWOARD as cited in Eshetu,2008). Altitude of the woreda ranges from 1500 m to over2000m.a.s.l.The long term (1953-2003) average rainfall recorded by ILRI Debrezeit and EARO Debrezeit research stations was found to be 839mm.Mean minimum and maximum temperatures recorded for 27 years ranged from 7.9 to28 degree centigrade respectively (IPMS 2005).

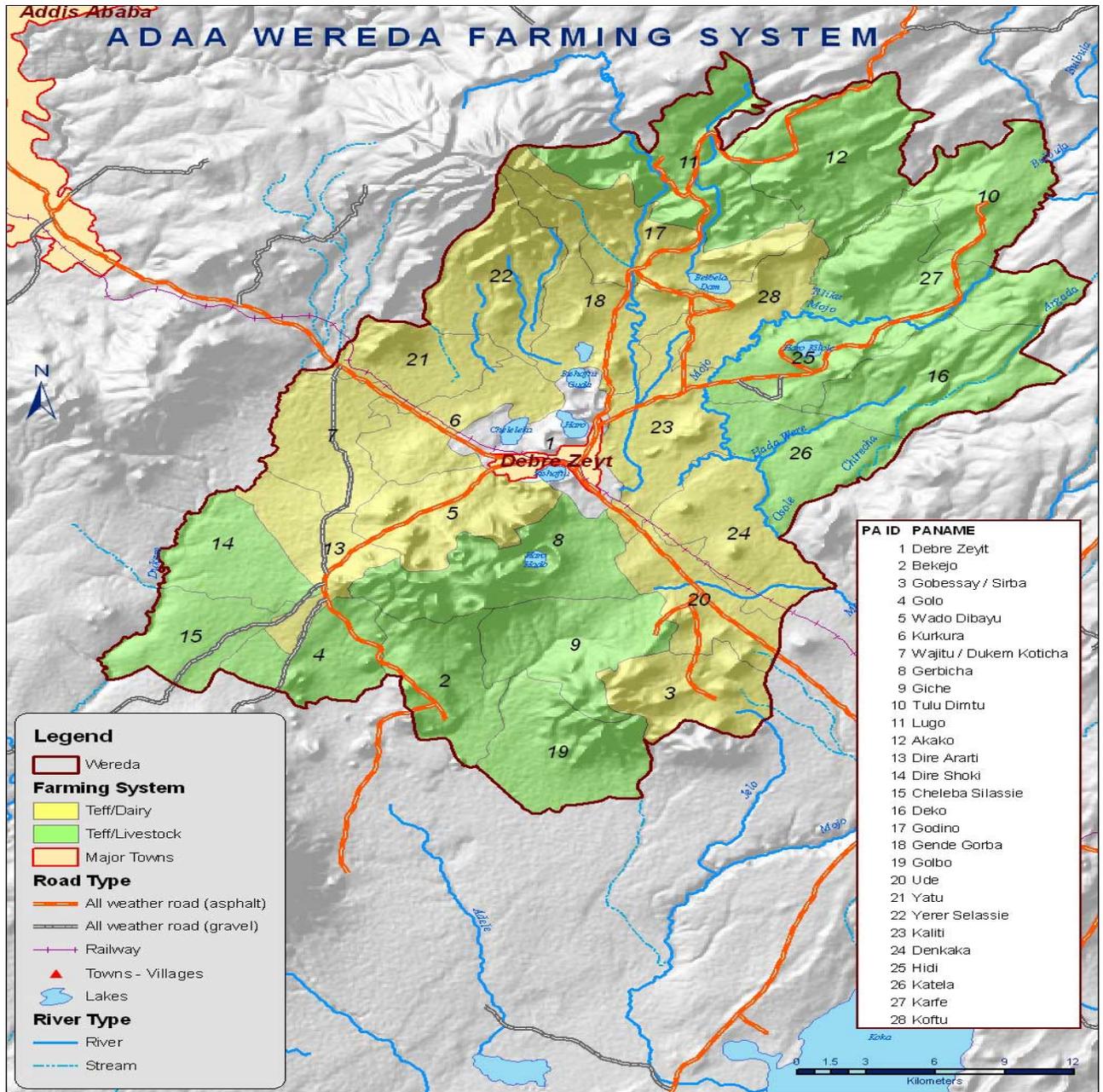


Figure 3. Map of the study area/Ada'a Woreda(source, IPMS, 2009)

Ada'a district has economic potential with reliable rainfall and modern technologies for agricultural production. Relatively the district has adequate physical and marketing infrastructure (Alemayehu, 2008).

Infrastructures like telecommunication, electric power and schools are highly advancing in the district. Moreover, the national veterinary research institute, faculty of veterinary medicine, the agricultural research center, Ethiopian milk and meat technology institute (the previous ILRI) contributed a lot for the development of the rural poor, particularly for Ada'a farmers and the country as a whole. Rural roads that branched to different kebeles and villages have played significant role in the supply of inputs and output of agricultural products. The woreda agricultural potential, the infrastructure and institutional arrangements have encouraged the emergence of private service providers such as animal feed factory, agro-processors, and private modern farms (Eshetu, 2008).

3.2. Sample and sampling techniques

For this research, multi-stage sampling procedure was employed to select the sample. First Ada'a woreda was selected purposively from East shewa zone because, it is one of the IPMS pilot learning woreda (sponsor of the research) within the zone and in the Oromia region. At the second stage all 27 FTCs of the woreda were stratified into three categories i.e. functional, semi-functional and non functional FTCs. Thereafter, the whole 16 functional and semi- functional FTCs were selected for the study purpose by discussing with the woreda office of agriculture and rural development by rejecting the non-functional ones because they are not yet, fully completed as others.

Consequently, in collaboration with extension agents of the respective FTCs/ PAs lists of trained and untrained farmers was prepared (those who have taken either modular or short term training and those who did not taken). Finally, based on the house hold number of the PAs 80 trained and 80 untrained farmers' altogether 160 respondents were selected by using probability proportional to size (PPS) random sampling method. To avoid gender bias 20% of the FHHs respondents, that is, one trained and one untrained female were selected purposively from each PA.

All the extension agents working in the selected FTCs were included in the study which was 40 in number as a source of information. The distribution of selected households by kebele administration or FTCs is presented in appendix, table 2.

Besides, the respondents of farmers and extension agents', formal focus group discussions were carried out with sixteen (16) trained farmers in two PAs(11 trained farmers from the most succeed FTC and 5 trained farmers which have ceased their training program after 10 days of training). In addition nine (9) untrained farmers from one FTC and with a key informant of one PA manager from semi- functional FTC. To avoid rural development tourism and bias the group were selected from the remotest FTCs. Formal and informal group discussions have been also carried out with supervisors, extension agents, experts and team leaders in the study area.

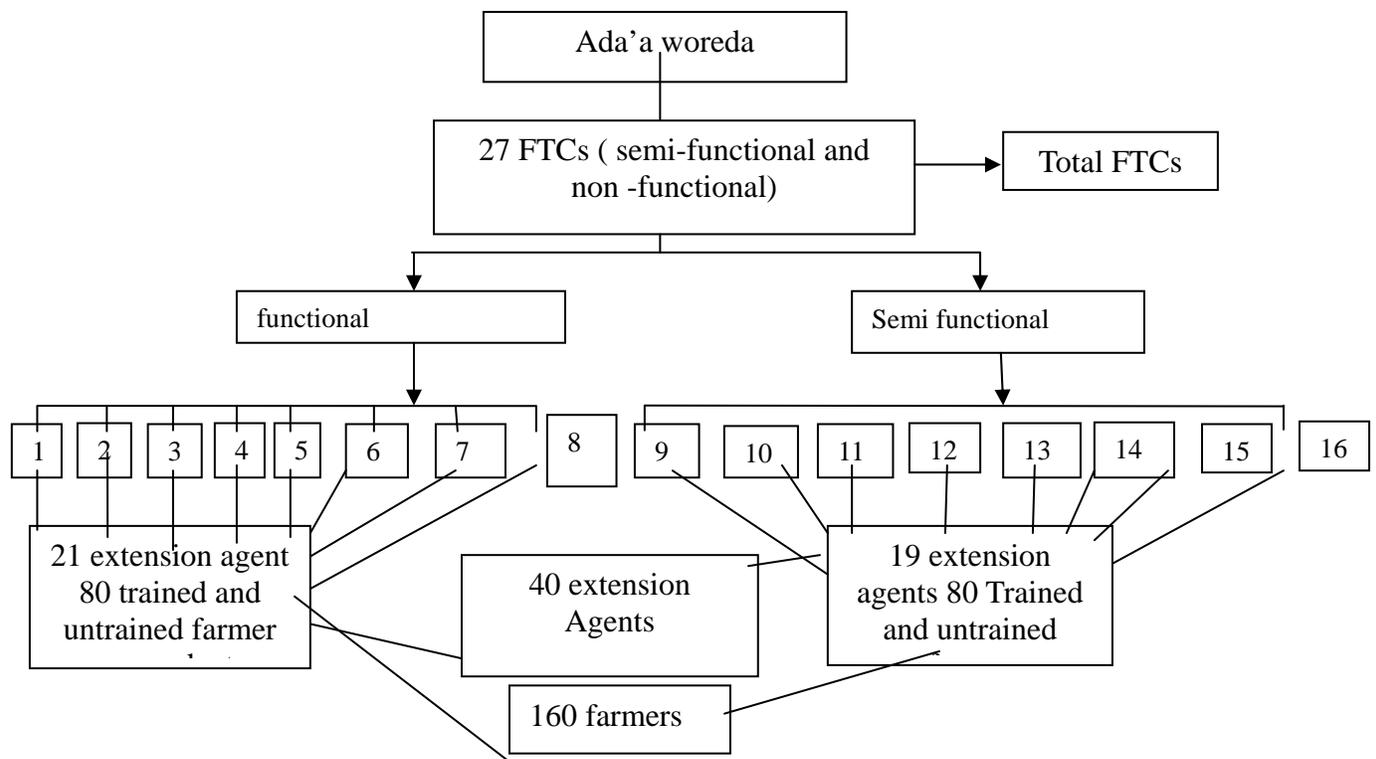


Figure 4.Sampling design

3.3. Data sources, type and methods of data collection

Indicators for measuring the status of FTCs

An indicator is defined as quantitative measurement of an object to be achieved, a resource mobilized, an output accomplished, an effect obtained or a context variable (economic, social, or environmental).Indicators can be quantitative or qualitative in

nature. Quantitative where we are counting the results in numbers, Qualitative, where we obtain information on people's views or opinion (EU, 2005).

In assessment of FTCs in the study area the fulfillment of the pre-determined indicators setted by MoARD were used and the translation of these standards were compared with the ground reality.

Based on the MoARD FTC standard and other observable realities the sixteen sampled FTCs were assessed and evaluated one by one through direct observation by the researcher himself and their present status, opportunities and their problems in organizing effective training program and in implementing the mandatory roles of FTC were identified. To find out farmers opinion towards the mandatory services provided by FTC were examined by constructing statements in a Likert type continuum scale. SWOT analysis and focus group discussions were also under taken.

Both primary and secondary data were collected for the study. Primary data were collected using interview schedule for farmers and self administered questionnaire for extension personnel backed up by personal observation, focus group discussion and informal discussion. The relevant primary data were gathered from extension agents who are working in the functional and semi-functional FTCs on variables which have an association with the problems and prospects of FTCs. The self administered questionnaire used for extension personnel were closed and open ended questions. However, the interview schedule for trained and untrained farmers was constructed totally close ended dominated by standardized opinion likert type scales.

Focus group discussion was also carried out with trained and untrained farmers. The researcher has assessed the current status of the sixteen FTCs with a check list through direct observation and by asking extension agents, supervisors, SMSs, team leader and key informants. Secondary data were also collected from different documents, government and non-government organizations working in the study area to complement primary data.

The instruments used for data collection were the national standard/indicators for assessing the status of FTCs, self administered and semi-structured interview and opinionnaire schedule. The questionnaire have consisted different types which were related to the topic of the research and relevant variables that help for the study. After incorporating comments given from supervisors the final draft of the questionnaires were taken to the study area for pre-testing before using the actual data collection. Primary data collection was conducted from January 22 to February 10, 2009.

Four (4) enumerators who have an educational background above twelve grade, who speak the language of the area (Afaan Oromo) fluently and who have an experience in data collection were employed on contractual basis. Before, they go to the field orientation was given about how to approach farmers, the ways how to conduct interviews, and so on. Pre-testing was also carried out on non sampled farmers. During the data collection period the researcher has made close supervision to each enumerator.

To identify opportunities and constraints of FTCs in the study area, extension agents, supervisors, SMSs and team leader's suggestions were considered which were obtained during SWOT analysis, through discussions and by filling open ended questionnaires. The personal observation and the focus group discussion carried out with farmers and key informants were also considered in listing down the opportunities and constraints of FTCs.

Respondents' opinion towards the mandatory roles of FTC in delivering agricultural extension services and training was determined using a likert type scale. The respondents were interviewed with the help of pre-tested interview schedule developed for the study. To measure each item likert scale was constructed with five response categories, that is, strongly disagreed (1), disagreed (2), undecided (3), agreed (4), and strongly agreed (5). Each response category of positive items was assigned with scores, 5,4,3,2, and 1, respectively. These scores were reversed for negative items. The respondents were asked to react to each of the statement of scale in terms of their own agreement or disagreement with the statement. Their reactions were marked by ticking on five point scale against the respective statement.

The recorded responses were counted and converted into mean scores for each opinion statement and ranked accordingly. The rank correlation was calculated between the ranks accorded by the trained and untrained farmer respondents with respect to their opinion towards the mandatory roles of FTCs. Z-test was applied to see the significance of variation between the trained and untrained respondents.

3.4. Method of data analysis

The researcher verified data to ensure that the interview schedule had been filled up properly and accurately after being completed by the enumerators. After the completion of data collection, the data were coded, entered and analyzed by using statistical package for social science (SPSS) 12.0 versions software computer program.

Qualitative data were analyzed through interpretation and conceptual generalization. Descriptive statistics such as mean, standard deviation, percentage, frequency and rank were used. Z- Test was performed to investigate whether there are significant differences between trained and untrained farmers. The results of data analysis were categorized, summarized, discussed and presented accordingly. Moreover, strengths, weaknesses, opportunities and threats (SWOT) analysis were used to summarize the results of the research objectives.

3.5. Definition of dependent and independent variables

Dependent variable

In this study, the dependent variables are problems and prospects of Farmers Training centers and they were operationally defined as follow.

Problem;- a problem is an obstacle which makes it difficult to achieve a desired goal, objective or purpose. It refers to a situation, condition, or issue. A state of difficulty that needs to be resolved. It is measured in ordinal level of measurement as **less severe**, **severe** and **more severe** by score based on basic criteria which are necessary for the teaching-learning process.

Prospects:- an apparent probability of advancement, success, profit etc.; the outlook for the future; anticipation; expectation; a looking forward; a mental view or survey as of subject or situation; range of vision; chances; the act of surveying or examining; a potential. It is measured in ordinal level of measurement by score as **bright, moderate** and **dark** based on the current status of FTCs in relation to the national standard.

Independent variables associated with problems and prospects of FTCs

The following variables were considered to have a close association or relations with problems and prospects of farmers training centers.

Organizational communication: For the effective functioning of FTCs there should be clear authority, adequate resource, agreed aims and good leadership with effective vertical and horizontal communication system. If the organizational communication among the hierarchical structure is weak the success of FTCs will be low. It is measured in ordinal scale as poor, good, very good and excellent.

Number of extension personnel: This refers as the total number of the extension staff the woreda has, that is, officials, team leaders, SMSs, supervisors and extension agents. If the woreda offices of agriculture and FTCs have adequate number of staff the performance of FTCs will be high. This is measured in number, ratio as DA: farmers, DA: supervisor.

Infrastructure facilities: Infrastructure includes different buildings and services found in the FTC like class rooms, offices, residence, exhibition center, workshop, clinic, tele center, etc. An FTC which has different buildings and services will have a better status and output. It is measured by the number of these services.

Equipment / material: These are different materials such as seats for trainees, chairs, tables, shelves, field equipments and other facilities that are necessary for the teaching-learning process. An FTC which has fulfilled different internal facilities and field equipments will have better status.

Guideline, curriculum and modules: These are instructions, work guides and teaching manuals which show direction how to implement the training program in FTCs. A woreda or an FTC which have a clear guideline, curriculum and teaching modules will have a better status with good results and those who do not have will have poor status. This is measured in nominal scale as yes or no.

Budget allocation: It has been reported by numerous extension scholars that due to inadequate financial investment to extension, the recruitment and retention of competent extension personnel, plus adequate provision for in-service training of staff and training of farmers, transportation, housing and the conduct of extension programs cannot properly be carried out(Bahal,2004). Therefore, 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. The budget is measured in terms of Birr allocated for the FTCs per annum.

Appropriate teaching materials: 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 (Youdeowei and Kwartteng,1995). An FTC which has fulfilled appropriate teaching materials will have better status and show good results. If not the status and the results will be the reverse. It is measured in numbers by counting the items that are available in the center.

Demonstration field: It is a place where farmers learn different agricultural practices practically by doing themselves what they have learnt in the class room. An FTC which has enough demonstration fields (3-5ha) will have a better status and good output. If not the result will be the opposite. It is measured in terms of hectares or meter squares.

Linkage with other development institutions: These institutions include local, non-governmental organization and governmental institutions such as credit, input supply, research centers and others. FTCs which have linkage or connection with different

institutions will have better capability to run their functions and have high status in input and output. The linkage is measured in ordinal scale as excellent, very good, good, poor, no linkage.

Monitoring and Evaluation: Monitoring is the systematic gathering and analysis of information on the project or program in terms of the resource used, the outputs produced and the direct results of assisted activity. Evaluation judges the value of assisted activity by comparing actual direct outputs, socioeconomic results and wider and eventual impacts against those targeted during the planning of the project. This judgment should be made systematically and objectively, and for this it makes use of criteria or standards (EU, 2005). Therefore, FTCs which have a regular monitoring and evaluation system will have better status than those who do not have. This is measured by the amount of times the supervision is made as weekly, monthly, quarterly, six month, annually.

Incentives for extension personnel: Incentive to extension personnel plays great role in the efficiency and effectiveness of extension services. The effectiveness of an extension service depends to a noticeable degree also on the morale and motivation of its staff. In order to be efficient, the staffs need acceptable conditions, incentives, and promotion opportunities and good staff management (Von Blanckenburg, 1984). Therefore, the presence of incentive will increase the status of FTCs and absence of incentive will decrease their status. Incentive can be measured in ordinal level of measurement as poor, good, very good, excellent.

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

Community participation: This reflects the involvement of the community from inception upto 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. The participation is measured in ordinal scale as poor, good, very good, excellent.

Political commitment: If there are conducive conditions for development, that is, good governance, political commitment and support to strengthen FTCs by giving due attention, the status of FTCs will be high. Otherwise, the result will be the reverse. It is measured in ordinal scale as poor, good, very good, excellent.

External support: Besides the public budget and community participation the financial and material assistance given by different external organization. If there is an external assistance, the status of FTCs will be high, otherwise low or medium.

Location of FTC:- Location of FTC has an impact both on the trainees and trainers. If the residence of farmers and extension agents is very far from each other, it has an influence on the status of FTC, to attend training and for following up the daily work activities. Those who are nearer to the FTC can attend the training effectively but, those who are far away may get fatigued and lose interest. The distance from FTC up to the residence of farmers and extension agents can be measured in kms or the time it takes in hours.

Dropout rate:- In an FTC where the dropout rate of trainees is high the status and the output of the FTC will be poor or low. But if the dropout rate of trainees is low the status and output of the FTC will be high. It can be measured in terms of ordinal measurement as, low, medium, high and very high.

Educational level of the trainees:- If the educational level of farmer who are attending the training is high they accept what is taught and understand everything easily. But if they are uneducated and illiterate it is difficult for them in reading and writing what they have learnt. It is measured as illiterate, basic education, primary education and secondary school, in the number of years they attended.

Non educational work load: this is a type of work done by extension agents other than educational and extension work and the efficiency of extension personnel declines when they have to look after many educational and non educational activities. This is measured in ordinal scale by the time they spent for non educational work as quarter, half, three-fourth and not at all.

Functional FTCs: are those which have fulfilled the basic teaching materials, field equipments, seats, facilities, three trainers, demonstration field and who implemented the major mandatory services of FTC.

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

4. RESULTS AND DISCUSSION

This chapter comprises the study findings to be discussed under different sections, based on the objectives of the study. Accordingly, the personal demographic characteristics of respondents, the present status of FTCs, that is, their organizational and operational status, the identified opportunities for advancement of FTCs and constraints which hampered the FTCs in performing their mandatory roles, information obtained through focus group discussions and personal observations, the summary of SWOT analysis and farmer's opinion towards the mandatory services of FTCs shall be discussed and presented in detail successively.

4.1. Personal and demographic characteristics of respondents

Table 1. Distribution of respondents by sex, age and marital status

		Trained(80)		Untrained(80)		Total (160)	
Respondents		F	%	F	%	F	%
Sex	Male	64	80	64	80	128	80
	Female	16	20	16	20	32	20
	Total	80	100	80	100	160	100
Age category	21___ 30	20	25	14	17.5	34	21.3
	31___4o	34	42.5	31	38.75	65	40.6
	41___ 60	26	32.5	32	40	58	36.3
	> than 60	0	___	3	3.75	3	1.9
	Total	80	100	80	100	160	100
Marital status	Married	64	80	60	75	124	77.5
	Single	2	2.5	5	6.25	7	4.375
	widow	14	17.5	15	18.75	29	18.125
Total		80	100	80	100	160	100

Source: own data result, 2009

F = frequency

Table 2. Distribution of respondents by educational level

Educational back ground	Trained (80)		Untrained (80)		Total (160)	
	F	%	F	%	F	%
Primary	28	35	16	20	44	27.5
Secondary	23	16.25	9	11.25	22	13.75
Basic education	17	21.25	21	26.25	38	23.75
Illiterate	22	27.5	34	42.5	56	35
Total	80	100	80	100	100	100

Source: own survey result, 2009

Concerning the educational background of respondents Table 2 depicts that from the overall respondents, 44 of them (27.5%) were under the category of primary education(grade 1 to 6), twenty two of them (13.75%) were under the category of secondary school(7 to 12) , thirty eight of them(23.75%) were those who read and write(basic education) and fifty six of them (35%) were illiterate. This figure justifies the constraint which was identified by extension agents in their centers. Many extension agents expressed lack of educated farmers who can read and write ‘Afaan Oromo’ as one of the problem they faced. Hence, as the majority of the respondents were illiterate it has an implication on functioning of FTCs.

Table 3. Distributions of respondents by family size

Family size category	Trained (80)		Untrained (80)		Total (80)	
	F	%	F	%	F	%
1 ___ 2	11	13.75	3	3.75	14	8.8
3 ___ 5	23	8.75	22	27.5	45	28.1
6 ___ 8	29	6.25	37	6.25	66	41.3
Greater than 8	17	1.25	18	22.5	35	21.9
Total	80	100	80	100	160	100

Source: own survey result, 2009

The data incorporated in Table 3 reveal that from the overall respondents, sixty six of them (41%) most of the farmers of the study area has big family size composed of 6—8 members.

Table 4. Distribution of respondents by the type of cultivation

Type of cultivation	Trained (80)		Untrained (80)		Total (160)	
	F	%	F	%	F	%
Rain fed	78	97.5	69	86.25	147	91.875
Irrigated	0	--	1	1.25	1	0.625
Both	2	2.25	10	12.5	12	7.5
Total	80	100	80	100	160	100

Source:- own survey result, 2009

Concerning the type of cultivation (Table 4) show that among the total respondents majority of them 147(91.875%) produce with rainfall, one (0.625%) with irrigation and twelve of them (7.5%) produce by using both rainfall and irrigation. A fair majority of farmers rely on rain fed crop cultivation. Surprisingly the irrigation facilities are practically zero, which may be posing a challenge to FTC.

Table 5. Distribution of respondents by distance of residence from FTC

Distance in km	Trained		Untrained		Total	
	F	%	F	%	F	%
Less than 1.5	21	26.25	36	45	57	35.6
From 2 to 3	50	62.5	30	37.5	80	50
More than 3	9	11.25	14	17.5	23	14.4
Total	80	100	80	100	160	100

Source: Own survey result, 2009

An observation of the Table 5 reveals that, the distance of respondents' residence from FTC of the majority of them (50%) were 2 to 3 km; fifty seven of them (35.6%) were less than 1.5 km, and twenty three of them (14.4%) were more than 3 km far away. One of the constraints also expressed by extension agents was the distance of FTC from farmers' residence which causes an influence on implementing the mandatory roles of FTCs. This problem was also justified by the trained farmers and key informant at the time of group discussion.

4.2. Present status of FTCs in the study area

In this study status mean the current physical and operational relative position of FTCs; their present condition. Things to be fulfilled by FTC, that is, about the construction design, its organizational structure, management and requirements for the teaching-learning process a detailed guideline has been prepared and sent to every region by the federal MoARD as an indicator. Some of the indicators expressed in the guideline document are infrastructures to be fulfilled, number of extension agent needed, teaching materials required, number of seats, amount of demonstration area etc. Hence, the assessment was carried out by comparing the existing ground reality with these standardized indicators.

4.2.1. Organizational and structural status of FTCs

Currently there are 27 FTCs in Ada'a woreda. From the total FTCs, sixteen (16) were selected purposively for the study purpose by discussing with the Woreda office of agriculture and rural development extension personnel. The rest eleven FTCs were discarded because they are not fully completed and are not functioning. The researcher has observed all of the sixteen FTCs with a prepared check list by asking key informants for clarification. The assessed FTCs were, Bekejo, Deko, Denkaka, Dire, Gobesaye, Godino, Golbo, Golo, Hidi, Katila, Kerfe, Kurkra, Tedecha, Tulu Dimtu, Ude and Yerer-Selassie. The minimum distance of FTC from the woreda town is 3 km and the maximum distance is 33 km.

Infrastructural facilities of FTCs in the study area

Buildings and residence

According to, the information obtained from the extension agents of the centers, 5 of the FTCs were established in 2004/05, 4 in 2005, 3 in 2006, 3 in 2007 and 1 in 2008. Eight of the FTCs (50%) were constructed with stone, bricks and the roof with corrugated iron and the rest FTCs' the base with stone and the wall and roof were constructed by corrugated iron. The construction design of all FTCs is the same. Each FTC has one class room, one store and one office. Except few FTCs, most of them have a toilet. The toilets of two FTCs were sunken, the wall and roof of one FTC was blown away by wind and the doors of a toilet of one FTC were stolen by a thief and four FTCs don't have toilet at all. The windows of four FTCs (Deko, Kerfe, Tulu Dimtu and Tedecha) are totally open. Their frames were not fitted with glass and because of this different kinds of birds enter easily inside the rooms. The floors of the rooms and the seats were covered by the dropping of birds and dust. Even if, on the MoARD guide line it is indicated that every FTC will have workshop, exhibition hall and metrology center, the researcher couldn't find any of these facilities during his assessment. The recommended classrooms to be constructed on the guideline are three, but the researcher saw only one in every FTC. Also a new residence for extension agents was not constructed based on the guideline

indicated; they live in the office and residence of previous development center and others. Except Gobesaye FTC, all FTCs have residence for extension agents. But, some FTCs are very far away from the residence of DAs, some are old and need renewal and they are not enough for three DAs. Extension agents' of Golo live by renting a house because of fear and the isolation of their residence from the village.

The base and the wall of Tedecha FTC were cracked due to the soil condition and lack of quality during the construction time. The base of the building of Katila FTC in the west side was also ruined and the whole construction lacks quality. Gobesaye and Golo FTCs' buildings also lack quality. Some FTCs have been constructed far away from villages. For example, Godino, Gobesaye, Golo and Deko FTCs were isolated and this may expose them for theft. Also the location of some FTCs lack centrality, and they are very far away for some villages and farmers. The class room key of Deko FTC was disappeared and because of this, the seats and the black board were in the office room. In the FTC store of Kurkura also the guard of the center lives in it.

During the assessment of the status of FTCs the researcher has observed Bars nearby Ude and Kurkura FTCs which sell local drinks. Especially, the music released from the Bar nearby Ude was very loud and heard easily by those who learn in the FTC. In rural areas of the small urban towns farmers enjoy and relax during the market days by drinking alcohols, such as draft, beer, ' tej' and local 'areke'. In all the buildings and residences are in a very poor status and needs lot more improvement. Improving sanitation in the area and basic priorities should be addressed in the near future.

Transportation and communication facilities

Only, seven FTCs have all weather road access throughout the year. Most of the rural areas are linked by gravel roads. The main asphalt road to Addis Ababa also passes by dividing the woreda into two and because of this; some of the FTCs have access to asphalt roads. Public transport is available in the FTCs which have access to all weather roads. Especially on market days, many mid-buses and mini-buses serve in transporting the rural community from village to village. But, during the dry season all of the FTCs

can be reached by horse carts, land rover and some of them by public transport. In summer it is very difficult to travel by car in the FTCs which do not have road. Because the soil becomes muddy and sticky. All the DAs, which are 40 in number (100 percent of them) working in the sixteen (16) FTCs do not have any transportation facilities given to them by the woreda office of agriculture and rural development. They serve the community by going on foot from village to village. Sometimes, they use public transport and private horse carts by paying upto 10 birr and even more based on the farness and unsuitability of the road for one trip. The researcher has also realized this situation during data collection.

Even if, all of the FTCs did not have their own telephone, in some of the small rural town there is a wireless telephone service. All of the extension agents and farmers of the woreda are not isolated from information. However, to give a proper extension services those FTCs which do not have access to road need due attention to link them with the woreda town. The supervisors and extension agents have also to be provided with transportation facilities.

Water supply

Most of the FTCs have water problem, especially for watering nursery seedlings and to conduct demonstration throughout the year. Only Godino FTC has access to river water for conducting demonstration throughout the year. At present TuluDimtu and Kerfe FTCs were benefited from Gimbichu-Metehara water project and they have access to potable water. Recently, Denkaka FTC/PA has got a potable water supply too. Most of the peasant associations have common well water for drinking purpose. In some FTCs, for example in Deko FTC the extension agents have tried to water the seedlings that they have planted by fetching water with their own money in order to prevent from drying. To solve the water problem for demonstration Hidi, Dire, and Denkaka FTCs have dug a soil pond in their compound which has a plastic cover/Geo-membrane. To overcome water problem, extension agents at Ude FTC have also tried to dig water well. As observed by the researcher majority of the FTCs have water problems. Most of the tree and fruit seedlings planted in the compound have been dried. Therefore, water is a challenging problem of

FTCs in conducting demonstration trials throughout the year to convince farmers.

Electric power

Some of the small town like, Dire, Godino, Hidi, Ude and Bekejo have source of an electric power. Among the FTCs for the time being Ude has got the main electric power supply and Dire FTC is waiting for the laying of the line by Ethiopian electric power corporation. The money is already paid by IPMS project. Godino and Hidi have generators and they have the chance in the future to get the main electric supply in the short period of time as the line already reached in their small town close to most of the FTCs there are also elementary schools and human health posts. Source of electric power is therefore, very important for FTCs for using audio-visual teaching aids to convince trainees, to connect with internet and even to teach farmers during the evening by the support of films.

Extension agents/Trainers in the study area

The extension agents working in the centers are 40 in number. Twenty five (62.5%) of them are male and fifteen (37.5%) are female. All of them have ATVET diploma and 11(27.5%) of them are specialized in plant science, 14(35%) in animal science and 15 (37.5%) of them in natural resource. According to the recommendation, 50 percent of the FTCs(eight of them) have fulfilled the required number of extension agents that is, one in plant science, one in animal husbandry and one in natural resource. The remaining eight (8) FTCs, each of them have only two extension agents. To fulfill the FTCs based on the recommendation, additionally 5 DAs with plant science, 2 DAs with animal husbandry and 1 DA with natural resource profession are needed. The minimum age of the DA is 21years and the maximum age is 32 years. Thirty eight of them (95%) are in the category of 21 to 30 years and only two of them (5%) are above30years. Four of them two male and two female (10%) are married and thirty six of them (90%) are single. Concerning work experience thirty seven (92.5%) of them have a service of 1 to 5 years and three (7.5%) of them have a service of 6 to11 years. The minimum experience is 1 year and the maximum experience is 11 years. In the case of their life experience 31(77.5%) of them are from rural and 9 (22.5%) of them are from urban area.

Table 6. Personal and demographic characteristics of extension agents

S.N	Variables	No	%
1.	Sex --male	25	62.5
	- female	15	37.5
	-total	40	100
2	Age category—21 to 30	38	95
	_Above 30	2	5
	_ Total	40	100
3.	Marital status_ married	4	10
	_ Single	36	90
	-- Total	40	100
4	Education_ ATVET diploma	40	100
5.	Work experience__ 1 to 5 years	37	92.5
	_ 6 to 11 years	3	7.5
6.	Life experience _ Urban	9	22.5
	_ Rural	31	77.5
7.	Field of specialization		
	--plant science	11	27.5
	Animal science	14	35
	--Natural resource	15	37.5

Source: Own survey result, 2009

Currently 8 extension agents (20%) attend further education in the field of agriculture, management, economics and law. For the question asked why do you join agricultural extension organization, out of 40 extension agents 26 of them(65%) responded as they have high interest to serve rural people, 7(17.5%) of them due to lack of other job opportunity, and 4(10%) of them responded as their low grade did not allow them to attend other fields. All the extension agents working in the sixteen FTCs(100%) rated the incentive provision and promotion avenue of their organization as poor. Also among the forty extension agents thirty-five of them (87.5%) rated their salary payment as poor and five of them (12.5%) rated as good. For the question asked is there training provision for extension staff working in FTC, thirty-seven of them (92.5%) responded as yes and 3 of them (7.5%) as no.

Even if, most of the extension agents are youngsters they need the support of the woreda and zone to build their capacity because most of them lack practical skills and experience. The income of a worker may also have an impact on job performances. For example, with less income people tend to do other activities for the purpose of generating more earnings and consequently forget their core work responsibilities, hence lowering the quality and quantity of extension services delivery to small holder farmers at FTCs. Therefore, to overcome the turnover of extension agents and to make them stable at FTCs they have to be motivated and should be provided by the necessary incentives to keep their morale in order to make the training program at FTCs more effective.

Teaching materials, sitting accommodation and field equipment

Teaching materials are teaching aids used during training to facilitate effective communication and learning. Training materials may be categorized into two main types i.e., printed and non printed materials. Some of the examples are blackboard, flipchart, leaflets, models, samples, slides, CD etc. Among the sixteen (16) FTCs seven of them (43.75%) have fulfilled sitting accommodations and facilities for the teaching learning process unsatisfactorily and five of them (31.25%) have fulfilled nothing for the teaching-learning process. The four FTCs(25%) Ude, Godino, Hidi and Dire which are supported by IPMS project have a better teaching materials, equipment and facilities fulfillment than the others. The project has already bought computers with printers, televisions, DVD players, CD for these FTCs. Two of them have generators, one FTC has electric power from the main electric line source and to connect the fourth FTC with the main electric line the process was completed by the project. The project has also approved a budget to fulfill these four FTCs with internet and wireless telephone.

There researcher asked with a pre-coded question all the extension agents working in the sixteen FTCs if they have enough training materials in their center and six of them(15%) responded as yes and thirty four of them(85%) as no. For the question if no how do you carry out training to farmers six of them(15%) responded by teaching only in theory under a tree, by taking to farmers field and by taking to the school nearby us. Nine of them(22.5%) responded as by coordinating the community and by using local materials,

fourteen of them(35%) responded as by borrowing from the community and from own pocket, two of them(5%) responded by using what they have and three of them(7.5%) responded as the training is not started and the FTC is empty. Also they were asked from different teaching methods which ones were fruitful for teaching farmers and ten of them(25%) responded as group discussion, demonstration and field day, seven of them(17.5%) field day and demonstration, seven of them(17.5%) lecture, field day and demonstration, four of them(10%) demonstration and group discussion, eight of them (20%) meeting, field day and demonstration and four of them(10%) responded as meeting, demonstration, field day, group discussion and study tour.

The majority have started provision of training since 2005. But the training program was not sustainable. Therefore, it is very difficult to consider lack of teaching materials as a major constraint because; Even, those who did not have any facilities, because of their effort and commitment they have tried their best to train farmers by using the facilities of primary school in their area until they fulfill these materials.

Curriculum and guideline

Based on the woreda extension expert and the previous head of the office information, only the previously established six FTCs have curriculum and the others do not have because of budget constraints. It requires a lot of money for buying stationery and for duplicating the curriculum to give for the others. Most of the extension agents have a module/a guideline. They got these manuals which were prepared in Amharic and Afaan Oromo languages from Oromia and Federal MoARD while they were attending in-service training courses. Due to, the frequent turn over and transfer of extension agents, most of the newly assigned extension agents have very little or almost negligible information concerning curriculum and guidelines. Most of the DAs teach farmers by preparing their own outline as they told to the researcher. Hence, for conducting an effective training program each FTC has to be provided by the necessary curriculum and guidelines. The curriculums have also to be revised and prepared according to the context of the woreda.

Organizational management body and communication between woreda

Most of the extension agents agree on the presence of an organized body (development committee) that runs the work activities of FTCs in every PA. The chairperson of the development committee is the chairman of the PA but, the researcher has observed that, most of the work burden was left for extension agents and supervisors. According to the information of DAs of the centers some kebele management committee collaborated to them to strengthen FTCs by mobilizing and creating the awareness of the community. On the other hand, in some PAs the kebele management bodies are not committed and did not give attention to FTCs as the DAs' expressed. 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 development institutions was poor. For the question asked how is the linkage of FTC with woreda office of agriculture, out of forty extension agents five of them(12.5%) responded as very good, twenty of them (50%) as good, six of them (15%) as fair and nine of them (22.5%) as poor. Also concerning the communication between FTC and woreda twenty of them (57.5%) rated as poor, fifteen of them(37.5%) as good, one(2.5%) rated as very good and one (2.5%) as excellent. The forms of communication between woreda and FTC as indicated by the extension agents are verbal(2.5), written(42.5%), verbal and written(15%), meeting (12.5%), group discussion (5%) and by all of them(22.%).

Demonstration areas of FTCs

Except eight FTCs, the other FTCs have less than one hectare of land for demonstration purpose. Only four FTCs have fulfilled the recommended area, which is 3-5 ha. The demonstration fields given for Hidi, Godino, Deko, Katila and Golo FTCs lack fertility, they are degraded, sloppy and rocky with a hard pan. Especially the land given for Deko FTCs is totally stony. They have faced a great problem in digging holes for a seedling and compost pits. The extension agents have expressed their fear for the researcher by saying that, 'how can we convince farmers by conducting demonstration on such type of land'? There are also disputes/disagreements which did not get solution on the demonstration area of Tulu Dimtu and Gobesaye FTCs among farmers and village communities. According to the information obtained from Hidi zone supervisor and extension agents,

in order to get an income source Deko, Katila and Hidi FTCs have rented part of their demonstration area on contractual basis. In some FTCs the land was left idle without any utilization.

Most of the FTCs are not fenced and even those which have a fence; it was not strong enough to protect the entrance of livestock in the FTCs compounds. Due to lack of fencing, different trials carried out and 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 in the compound of Dire, Ude, Deko and Kurkura FTCs. Out of the sixteen FTCs only seven(7) of them have guard and the rest do not have. In other case, the guideline recommends two guards for each FTC.

As ‘seeing is believing’, demonstration is a powerful instrument to teach and convince farmers among the extension methods especially for illiterate farmers. Therefore, every extension agents who were assigned in FTC have to use the demonstration areas which they have got from the community effectively to teach farmers in practice. The woreda office has also to create a strong linkage with Debrezeit Agricultural Research Center in order to use the FTC compounds for technology development and to popularize new practices and innovations. They have to work together collaborately. Otherwise, keeping the demonstration areas idle without production is wastage of resource.

4.2.2. Operational status of FTCs in the study area

On the MoARD, farmers training center guideline and on the PASDEP five year FTC program, the roles of FTCs and the activities to be done by each FTC has been shown clearly on both these documents. Operationally, the centers were from the outset an integral part of the national extension service program. Their annual program of work and the syllabus of the teaching staff for each course were decided upon by the administration of the extension service within the frame work of the priorities of the national extension and which can be implemented according to the context of each region.

Based on the assessment and the information obtained from extension agents, supervisors

and woreda extension personnel, the extension activities which were carried out by most of the FTCs in Ada'a woreda were, provision of extension services, short term training, advisory services, market information and modular training. Most of the FTCs, except Gobesaye and Golo have tried to give modular training since 2005. There are five FTCs which have not fulfilled any teaching facilities. These are Gobesaye, Golo, Golbo, Yerer selassie and Katila. Even if, they did not have any teaching materials, due to the commitment of extension agents, Katila, Golbo and Yerer FTCs have tried to give training for farmers in 2008 and 2009 by using the facilities of primary schools in their areas. The interesting thing that the researcher has observed in Dire FTC is that, the weekly market information which was posted on the notice board, in the compound of the center for farmers by extension agents. Godino and Dire FTCs have a notice board in their compound which was provided by IPMS project to them.

Based on the information of Denkaka FTC coordinator, they have given modular training for 60 farmers for two months in 2005. But, after they have taught for about 2 months without completing the program, they were forced to stop the training program by the direction given to them from the top management body. The reason given to them was that, the FTCs have not fulfilled the necessary teaching materials and facilities. Ude FTC starting 2006-2008, Dire, Godino, Tedecha, Kerfe, Bekejo, Hidi, Kurkura and Deko FTCs since 2007, Golbo in 2008, Yerer and Katila in 2009 have given modular training for farmers. In Bekejo and Dire FTCs extension agents have given training two times for a separate batch of farmers and they are not able to complete the program for both batches, due to drop out of trainees and absenteeism.

Except Godino FTC none of them could offer the said courses. Even Godino has taken almost two years to complete a six months course and the participants were also only twenty five in number. All of the trainees were male. Whereas, the recommendation or standard given for one FTC is to train 60 farmers in one intake. The training was given by most FTCs for two days in a week and for 4 hours daily by deciding the appropriate time with the trainees. The courses commonly offered at the centers were crop production, horticulture, animal husbandry, crop protection, irrigation and natural resource. The

Woreda criteria by which farmers are selected for attending training at FTC were:-

- Those who can write and read Oromiffaa or Amharic language.
 - Those that live in that peasant association and
 - Those who have interest and can show what they have learnt to other followers.
- In other case, the criterion expressed by the region differs a little bit from the woreda. The criteria's are:-
- Who read and write the local language.
 - Who attend the training twice in a week?
 - Must cover 75% of the courses given to hold training certificate.

Based on the information given by the woreda and the regional office there is a gap concerning the duration of farmers training programs. The region expressed as the modular training program is not yet started and the training program which was carried out so far was only short term training and the time allocated for it was 144 hours. Whereas, the woreda expressed that, the duration for modular training as six months/300 hours and the time allocated for short term training was one month. They have also said that the training program was open for both male and female farmers. There is no discrimination in this regards, according to their expression.

Most of the FTCs in the study area, are not conducting need assessment before finalizing the content of training because; the training is based on the modules that have been prepared at the regional level. On the other hand, training and field of training is based on kebele's field of specialization. Hence, the farmers are advised to select training topic accordingly.

All of the FTCs have no operational budget to carry out their mandatory roles. But this budget year, 500 birr was allocated for each FTC for stationery purpose only. The money is not given for the FTCs directly and the stationery is bought by the woreda office of agriculture and then dispatched to the FTCs. At present all of the extension agents in all FTCs are giving the normal extension and advisory services for the community. As the researcher realized this year during the data collection only few FTCs were giving

modular training in unsustainable manner. Currently, Godino(now they have completed the training program), Dire, Bekejo, Yerer and Katila FTCs are on training farmers. The training program of most FTCs was ceased due to the drop out of trainees.

The extension agents in Denkaka, Hidi, Katila, Deko, Ude, Dire, Godino, Tedecha, Bekejo and Kurkura have tried to conduct demonstration and have prepared different models in the FTC compounds to teach farmers. Among these FTCs, the demonstration work done in Denkaka and Katila FTCs has impressed the researcher more than the others. Among the sixteen, six FTCs(37.5%) have tried nothing. Their demonstration areas sat on a back seat without development and progress.

Katila FTC was established recently in 2007. The FTC is empty, nothing was fulfilled for it. It is 18 kms far away from woreda town (Debrezeit) and has only two DAs. Due to lack of quality in the construction, the base of the building of the FTC on one side was ruined. The land given for them is also a degraded one, which have already formed a gully. But, because of high commitment of the DAs in the center they have conducted different types of demonstrations in every field setting an example for others. They have also applied biological and physical soil and water conservation measures to rehabilitate the degraded area.

A case study of model FTC (Denkaka FTC) in Demonstration

Denkaka FTC was established in 2005. It is 9 kms far away from Debrezeit town. The total numbers of households and youth who took extension services by this FTC are 994. The center has no electric power and all weather roads. It is difficult to go to the center during the summer time because of the nature of the soil. The type of the soil is vertisol. The agro-ecology of the area is woina dega. The major crops grown in the area are teff, chickpea, wheat and others. In the center there are three extension agents, one male and two female. Even the FTC has not succeeded in the modular training program it becomes the first model FTC in East shewa zone in the2008/09 production year. The extension agents have been awarded for their good work they did. During the field day which was carried out at the end of 2008, many officials including the state minister of

federal ministry of agriculture and Rural Development, extension agents and farmers from the woreda and outside the woreda have visited the center. The land given for demonstration was only half hectare, but the DAs in the center have used the land efficiently and effectively to demonstrate and show different activities and models in the compound. To conduct the demonstration they have contributed their own money and labor. They have got some support from IPMS and the community for ploughing the demonstration field. They have faced budget problems to operate some activities. The demonstrations carried out and the models prepared in the center to teach and show farmers were:-

- Water pond which has a plastic sheet cover.
- Different transplanted fruit, tree and coffee seedlings, forage crops .
- Oil crops trials(Ground nut, safflower, sunflower, rapeseed, Niger seed, sesame, flax), Cereal crops(teff, barely, maize) pulses, vegetables.
- A display of Drip irrigation method by using plastic bottles and plastic oil containers and glucose tubes to show how water is given for individual fruit seedling.
- Modern poultry house, cattle house, transitional modern bee hives, hay box brooder.
- Model of BBM fitted with the local plough, model of improved grain storage.

The researcher has also observed what has been done by visiting each activity and by registering on his note book. The field equipment, facilities and teaching materials they had are not sufficient. Even if, the demonstration area and the FTC were fenced with barbed wire and poles, at present it is on failing. Three of the extension agents have residence in the compound of Denkaka farmers' service cooperative and their residence is not far away from the FTC. The action plan of the FTC for 2009 was also prepared on chart paper and has been posted on the wall of their office. They have planned to give modular training in the month of January, 2009. But, they did not start yet.

4.3. Opportunities, constraints of FTCs, focus group discussion and SWOT analysis

4.3.1. Opportunities for advancement of FTCs in the study area

To identify list of opportunities extension agents, supervisors and experts' suggestions were considered which were obtained during formal and informal discussions and SWOT analysis was done. Initially, the list of opportunities was presented to the woreda subject matter specialists and extension team, natural resource team and input supply team leaders to add or to delete and to comment through discussion on the list of opportunities. Finally, the experts and team leaders were asked to put the list of opportunities in rank order according to their importance for promotion of FTCs.

The list of opportunities comprises nine items. The rank to opportunities given by the respondents as first opportunity was given nine points and the second eight points, the third seven and like this the last opportunity had one point. After doing all these, by adding the scores given by each respondent the mean score value of each opportunity was identified and the opportunity with highest mean score value was taken as the most important opportunity for the advancement and progress of FTCs in the study Woreda.

The major important opportunities which were identified, listed, and ranked by the Woreda extension personnel are presented in table as follows:

Table 7. Rank order of opportunities given by SMS and team leaders (N = 7)

No	Opportunities	Mean score	Rank
1.	The presence of favorable agricultural and rural development policies and strategies	7.14	1
2.	The presence of clear guideline, curriculum and teaching module	6.26	2
3.	The availability of enough extension personnel and transportation facilities in the woreda	6.14	3
4.	The availability of infrastructure throughout the woreda and access to information to communicate with FTCs	5.71	4
5.	The presence of agricultural research center in the woreda	4.85	5
6.	The presence of high community participation	4.57	6
7.	Political commitment	4.42	7
8.	The presence of IPMS project in the woreda	3.42	8
9.	The presence of cooperatives, input supply and credit institutions in the Woreda	2.57	9

Source: Own survey result, 2009

An observation of table 7 reveals that the presence of agricultural and rural development policies and strategies was perceived as an opportunity with high mean score by SMSs and team leaders (7.14). The reason given was that, every civil servant who are working in the woreda office of Agriculture and Rural Development have discussed on the document and most of the extension personnel also have the document with them. The researcher himself has seen this document in one of the FTC. It was followed by the opportunity of the presence of clear guideline, curriculum and modules (6.28). But, based on the information obtained from the Woreda extension expert they have received the documents and dispatched only for the six (6) previously established FTCs and due to lack of budget for buying stationery they were not able to duplicate the curriculum for the rest FTCs.

Both the opportunities, that is, the availability of enough extension personnel and transportation facilities in the Woreda and the presence of infrastructural facilities throughout the Woreda and access to information and to communicate with FTCs were accorded third and fourth ranks with a mean score of 6.14 and 5.71 respectively by the respondents. Relatively when compared with other Woredas' within East Shewa zone and the Region the indicated opportunities have been justified by Alemayehu (2008) and Eshetu (2008). The researcher has also confirmed these opportunities as they are real because, he has seen and gone through more than sixteen (16) FTCs or PAs in the Woreda during his study.

The presence of Debre Zeit agricultural research center in the Woreda and Melkasa and Adamitulu agricultural research centers within the zone as an opportunity was ranked fifth with mean score of (4.85). Debre Zeit agriculture research center is found in the study area which was established long ago. With a pre-coded questionnaire the researcher has asked forty(40) extension agents working in sixteen (16) FTCs, about the linkage of their FTCs with Debre Zeit agriculture research center and they responded, four(10%) as very good, ten(25%) as good, two(5%) as fair, sixteen(40%) as poor and eight(20%) of them as there is no linkage. It may be due to this fact, that the Woreda extension personnel ranked the research centers as a fifth opportunity. High community participation and political commitment were ranked as a sixth and seventh opportunities with a mean score of (4.57) and (4.42) respectively by the respondents.

The presence of IPMS project in the Woreda was ranked as an eighth opportunity with a mean score of (3.42) by the respondents. IPMS is a project which is working in Ada'a Woreda in collaboration with the Woreda office of agriculture and rural development. Especially the project is on supporting four model FTCs by fulfilling teaching aids, equipments and on trying to connect them with internet. The project also organizes different training program and participated in capacity building by sponsoring extension personnel for further education and has established a knowledge center in the Woreda office of agriculture and rural development. It becomes a miracle for the researcher to be ranked as an eighth opportunity by the respondents. To translate the government policies

and strategies of FTCs into reality IPMS and RCBP are on working to build the capacity of model FTCs. Currently, RCBP is on supporting 2504 FTCs in 138 woredas (in 68 Zones) throughout the country. The presence of co-operatives, input supply and credit institutions were ranked as a ninth opportunity with a mean score of (2.57) by the respondents.

4.3.2. Constraints of FTCs

To identify the lists of constraints that impedes the effective functioning of FTCs extension agents', supervisors', experts' and team leaders' suggestions, formal and informal discussions with farmers and extension personnel and the SWOT analysis carried out were considered.

The constraints list included fifteen items and among these, the constraint which is considered by the respondents as a first rank was given fifteen points, for the second fourteen points, for the third thirteen points and like this the last or the fifteenth rank will have one point. By doing all these, finally the score values given by each respondent for each constraint were added according to their score values and the mean score was calculated. The constraint that got the highest mean score value was taken as the most important constraints that impedes the effectiveness of FTCs and the least mean score as the least constraint that limits their effectiveness. For the sake of analysis the constraints were categorized as social, institutional, economic and general constraints.

The major impediments which hamper the effective operation of FTCs to achieve their mandatory roles were found to be as follows:

Social constraints perceived by Woreda extension personnel

An observation of the table 8 reveals that low community participation in FTC programs was perceived as the most important constraints with a mean score of (13.14) among the whole constraints ranked by the respondents. Through triangulation to clear out this constraints the researcher has asked with a pre-code closed and open ended questionnaire both extension agents and farmers. Even if, the level of participation differs, among forty

extension agents working at FTCs for the question asked 'Do the community participate in FTC programs, 39 of them (97.5%) responded as yes and one (2.5%) responded as no. Also for the question asked to farmers, have you ever participated in the construction of FTC? 152 respondents replied as yes and 8 respondents as no. For FTC construction they have contributed money and labor. The focus group discussion justified the same thing.

For the question asked how was the community participation in guarding FTC, ten of the extension agents (25%) responded as very poor, nine of them (22.5%) as poor, ten of them(25%) as good, ten of them (25%) as very good and one(2.5%) as excellent. Also out of the forty extension agents eighteen of them (45%) respond the participation of the community in implementation of a plan as poor. The reasons given for poor participation were lack of commitment among kebele and woreda cabinet members, lack of awareness, due to closeness to town farmers work in private limited company, because the FTC was constructed by government budget and farmers have no good attitude for FTC.

High dropout rate of trainees from FTCs and expecting some benefits in the side of farmers were perceived as the second and third constraints with a mean score of (9.97) and (8.85) respectively by the respondents. High dropout rate of trainees was confirmed by extension agents who are working in FTCs of the study area. Among forty extension agents who were asked with an open ended questionnaire to list the problems which they considered during the teaching-learning process twenty eight of them (70%) expressed high dropout rate of trainees as the major problem. The finding of expecting some benefit to attend the training program was confirmed by the researcher when he discussed with the key informant/ kebele manager of Tulu Dimtu PA. This also agrees with the finding of Mulugeta(2008) constraints and challenges of working through FRG was mentioned that farmers showed behavior of high expectation for material incentive and low participation in FRG activities.

Shortage of demonstration area and provision of unsuitable land for FTC was ranked as the fourth constraint with a mean score of (7.42).Even if, the recommended size of

demonstration area is 3- 5 hectare, the land provided for most of the FTCs is less than one hectare and the land given for some FTCs was also sloppy, degraded, rocky and unfertile one. There is also a dispute in providing land for FTCs among the community in Tulu Dimtu and gobesaye FTC.

Unavailability of educated farmers who read and write was ranked as the last or the fifth constraints perceived by the respondents with a mean score of (6.42). This problem was confirmed by the extension agents who are working in FTCs' of the study area. For the study purpose DAs were asked with an open ended questionnaire to list the problems they faced during the teaching-learning process and nine (9) of them (22.5%) expressed problem of reading and writing of 'Qubee' alphabets of 'Afaan Oromo'. In addition, while the researcher discussed with trained farmers group at Golbo FTC and with key informant at Tilu Dimtu FTC he confirmed that, the trainees who were attending the training program were both educated and uneducated farmers.

Table 8. Social constraints perceived by SMSs and team leaders (N= 7)

No.	Constraint	Mean score	Rank
1.	Low community participation in FTC programs	13.14	1
2.	High drop out of trainees from FTC	9.71	2
3.	Expecting some benefits in the side of trainees	8.85	3
4.	Shortage of demonstration area and provision of unsuitable land for FTCs	7.42	4
5.	Unavailability of educated farmers who read and write	6.42	5

Source: Own survey result, 2009

Institutional constraints perceived by Woreda extension personnel

According to the observation of table 9 among the institutional constraints, lack of teaching materials and equipments was perceived as a constraint with a mean score of (8.57) by respondent and accorded the first rank. This agrees with the findings of (Berhanu *et al*, 2006), which says, the constructed FTCs are expected to start operation in the 2005/06 cropping season. However, most of the FTCs have not been fully equipped yet. The researcher has confirmed this situation in the study area. The second constraint perceived by the respondent was lack of monitoring and evaluation system with a mean

score of (7.57). Weak supervision may result in provision of poor quality services especially for AEAs who are normally the only agricultural professionals in villages, and commendable supervision may result in desired quality services. This is evidenced by Urio (1996), who found that effective supervision increased contacts between farmers and extension officers, helps to give quick feedback and give possible solution to problems. In addition, forty extension agents working in the sixteen FTCs were asked to rate the monitoring and evaluation system of their organization with a pre-coded question and five of them(12.5%) responded as excellent, six of them(15%) as very good, fourteen of them(35%) as good and fifteen of them(37.5%) as poor.

Lack of transportation facilities and lack of clear guidelines, curriculum and modules, lack of incentive for extension agents were perceived as third, fourth and fifth constraints with a mean score of (6.00),(5.71) and (5.57%) respectively by respondents. Concerning transportation facility forty of the DAs (100%)working in FTCs responded as they do not have any transportation facility. Even, supervisors and the woreda office do not have enough transportation facilities. The researcher has confirmed this by a pre-coded questionnaire and through personal observation.). But the researcher has confirmed by asking forty (40) extension agents who are working in sixteen (16) FTCs with a pre-coded questionnaire and found that there was a great problem and dissatisfaction with the provision of incentives. All of the extension agents rated the provision of incentive as poor and the promotion avenue as poor. Concerning the salary payment of their organization 35(87.5%) of the extension agents rated as poor and (12.5%) of them rated as good. By supporting this finding Vijagaragavan and Singh (1997) also noted that 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. The amazing thing is that, lack of political commitment was perceived as the least important constraint with a mean score of (5.00) by the respondent.

Table 9. Institutional constraints perceived by SMSs and team leaders (N = 7)

No.	Constraint	Mean score	Rank
1.	Lack of teaching materials and equipments	8.57	1
2	Lack of monitoring and evaluation system	7.57	2
3	Lack of transportation facilities	6.00	3
4	Lack of clear guidelines, curriculum and modules	5.71	4
5	Lack of incentives for extension agents	5.57	5
6.	Lack of commitment	5.00	6

Source: Own survey result, 2009

Economic constraints perceived by Woreda extension personnel

An observation of table 10 reveals that lack of permanent budget was perceived as the first constraints by respondent with a mean score of (10.42). With a pre-coded questionnaire the researcher asked the extension agents if they have budget to implement FTC's mandatory roles and forty of them(100%) responded as they do not have. Also they were asked if no how do you carry out the training programs and other activities and six of them (15%) responded as by renting part of their demonstration area, eight of them(20 %) by convincing farmers to participate, seven of them(17.5%) by own money and labor, eleven of them(27.5%) by borrowing, community participation and from own money, four of them (10%) by asking the aid of different organizations, two of them(5%) from sells of demonstration results and two of them(5%) responded by using what they have economically. But in 2001E.C budget year the woreda has allocated five hundred birr(500.00) for each FTC only for stationery purpose. In other case the four model FTCs are support by IPMS project by budget too.

Table 10. Economic constraints perceived by SMSs and team leaders (N = 7)

No.	Constraint	Mean score	Rank
1.	Lack of permanent budget for FTCs	10.42	1

Source: own survey data, 2009

General constraints perceived by Woreda extension personnel

An observation of the table 11 reveals that non-educational work load was identified as the major constraints with a mean score of (11.42%) by respondents. This finding agrees with the finding of FAO, which indicates that extension personnel in developing countries spend about quarter of their time on non-educational activities. FAO regarded this as a “major loss of educational resources, especially in developing countries where extension coverage is still grossly inadequate, both in quantitative and qualitative terms” (Swanson et al, 1990). The researcher himself has confirmed these constraints in the study area. In this context out of forty (40) extension agents thirty seven of them (92.5%) replied as they are performing non-extension work and three of them (7.5%) as no. Concerning the time they spend for non-educational activities, twelve of them (30%) replied quarter, twenty one of them(52.5%) half, four of them(10%) three-fourth and three of them (7.5%) replied as not at all. Lack of infrastructural facilities and proximity of FTCs from DAs and farmers residence were also perceived as a second and third rank constraint with a mean score of (8.28) and (5.85) respectively by the respondents.

Table 11. General constraints perceived by SMSs and team leaders (N = 7)

No.	Constraint	Mean score	Rank
1.	Non- educational work load on extension agents	11.42	1
2.	Lack of infrastructural facilities	8.28	2
3.	Distance of FTCs from DAs and farmers residence	5.85	3

Source: own survey data, 2009.

Table 12. Over all constraints perceived by SMSs and team leaders (N =7)

No.	Constraint	Mean score	rank
1.	Social constraints	39.97	1
2.	Institutional constraints	38.42	2
3.	General constraints	25.55	3
4.	Economic constraints	10.42	4

Source: own survey result, 2009.

The observation of data in Table 12 shows that the social constraints (MS 39.97) was perceived as the major priority and accorded first rank by Woreda extension personnel. This was followed by institutional constraint (MS 38.42) and general constraints (MS 25.55) with second and third priority in the rank order. The data further indicate that the constraint perceived with least intensity by the extension personnel was economic constraints (MS 10.42) which were accorded as the fourth rank.

4.3.3. Problems perceived by extension agents during the teaching-learning process

During the study, the researcher has asked all the extension agents assigned at the FTCs with an open ended question to list the problems/constraints that they have faced during the teaching-learning process at their FTCs and most of them identified valuable constraints which need due attention. The summary of the constraints listed by extension agents was presented in frequency and percentage as follow.

Table 13. Major constraints perceived by extension agents at FTCs during the teaching-learning process (N = 40)

No.	Constraint	Frequency	%
1.	Drop out, delays and absenteeism	28	70
2.	Lack of teaching materials and equipments	22	55
3.	Lack of support from kebele and Woreda	11	27.5
4.	Lack of budget	10	25
5.	Lack of educated farmers	9	22.5
6.	Lack of awareness, low participation and expecting some benefits to be trained	8	20
7.	Lack of skill and need of training in the case of trainers	5	12.5
8.	Occurrence of untimely rainfall	3	7.5
9.	Lack of transportation	3	7.5
10.	Closing the training program due to meetings and non-educational work load	3	7.5
11.	Farness of FTCs from DAs and farmers residence	3	7.5
12.	Nearness of PAs to the town and expansion of private investment in the area	2	5
13.	Ignoring what they know to learn and need for new innovation	2	5
14.	Unfulfillment of extension agents in FTCs	2	
15.	Lack of water	2	5
16.	Social problems/ cultural ceremony	2	5
17.	Nothing to show in practice for what they learn in theory	1	2.5

Source: own survey result, 2009

An observation of data on Table 13 reveals that among the problems perceived by the front line extension agents during the teaching-learning process were drop out of trainees(70%), lack of teaching materials (55%), lack of support from the woreda and absence of linkage(27.5%), lack of budget (25%), lack of educated farmers who can read and write ‘Afaan Oromo’(22.5%), lack of awareness, low community participation and expecting some benefits(20%), lack of skill and need of further training in the side of extension agents(12.5%)were the major ones. Even if they were cited by small number of respondents the remaining problems also could not be neglected and undermined, if our target is to solve the problems of FTCs.

4.3.4. Focus group discussion with farmers and key informants

4.3.4.1. Discussion with untrained farmers at 'Denkaka' FTC

To know their satisfaction and opinion of untrained farmers towards the services of FTC the researcher has carried out a focus group discussion with nine (9) farmers in the center on January 22, 2009 for 2 hours. The age of the group members range from 39 to 62 years.

Based on the check list the forum was opened for discussion and everybody raised his hand to express his idea. The discussion was continued through the facilitation of the researcher accordingly. Every participants of the discussion group knows about the purpose of FTC. All of them responded that it was established for the benefit of the community, to educate farmers in order to increase production and productivity and to improve the living condition of the society. They have already got awareness about its purpose from the extension agents assigned in their PA.

“During the construction, hoping that we can get urgent solutions for our problems we have participated by digging the base and by carrying wood for construction. After its completion in 1996E.C the FTC stayed for a long time without functioning and giving services for the community. But, recently, in the compound of the FTC different types of demonstrations have been conducted and models were prepared by extension agents to teach farmers in practice. Even if, we have not taken training in the center, we have gained a lot of knowledge by seeing the trials carried out during the field day. We have benefited from the demonstration and also we became happy with the work done in the FTC. This is not false; it is a fact, which everybody can justify. The extension agents even who have done this good work were awarded. Outside our PA, many farmers, extension agents and high officials from different places have visited our FTC to share experiences. When they come to our village, the extension agents would give us advice. From time to time by going village to village they work with farmers to motivate them”.

“Our problem is the rising of the price of inorganic fertilizers from time to time. Our soil

has already accustomed inorganic fertilizers as a bribe, without fertilizer the productivity is very low. Improved seeds alone without fertilizer will not give results. Then, what is the use of giving extension advices to farmers without inputs? If, the price of fertilizer become cheap the prices of grains also will decrease”. Finally as a conclusion, they have asked the researcher heartily and sincerely to forward this serious issue for the Government in order to solve their problem.

4.3.4.2. Focus group discussion with trained farmers at ‘Godino’ FTC and Golbo

Focus group discussion with trained farmers at ‘Godino’ FTC

On January 28, 2009 the researcher went to ‘Godino’ FTC at 9:30 in the morning with public transport to discuss with trainees while they were learning in the class. Godino is 12 km far away from Debrezeit town, the capital of the Woreda. When he reached there, he found the zonal supervisor and DAs at the center. He entered into the class room as a supervisor to observe the teaching- learning process. An extension agent of natural resource was teaching morally by writing some notes on the small piece of black board. The lecture was delivered with ‘Afaan Oromo’. In between the lecture she asked them if they have questions. But, no one has asked her. They were eleven in number who were attending the class. Finally after she completed her daily session by greeting her and the trainees, the researcher introduced himself and told them about the purpose of his arrival in their FTC. As a start up, the questions raised for the focus group discussions were:-

- 1) How did you see the provision of the training?
- 2) What problems did you face or considered in the teaching-learning process while you are attending the training/during your stay since the last two years?
- 3) From your observation, what would you suggest to make the training program more effective in the future?

To avoid communication gap and to make all group members to be more participant, the discussion was carried out both in ‘Afaan Oromo’ and ‘Amharic’ languages. The discussion was held with eleven (11) trainees, whose educational background was from six to twelve grades. According to their information, they have started the training

program in 2007 and still they are on training (but, after the group discussion they have completed the courses offered in March, 2009 and they are going to be graduated after fasting, in the end of April, 2009). For the first time, when they started the training program they were sixty (60) in number but, until the end of the program only twenty five trainees have attended the course. All of the trainees selected for the training program were male. The training was given weekly for two days, on Wednesday and Friday daily for four hours. The courses offered were crop production and protection, animal husbandry, and natural resource. “The training was good, it will benefits us. Sometimes we went out to the field to see what we have learnt in the class practically. But, on some subjects (example, vegetable production) there is a problem, we learn only in theory, there was nothing that we have seen in practice”.

“In the future, pre-conditions have to be created for teaching farmers in practice from nursery up to post harvest handling. When they taught us, if it is not clear for us, we will ask them. They teach us the theory, by translating in ‘Amharic language’. We have an experience in farming and vegetable production. We could not accept everything from them, we challenge them if it is not clear for us. Sometimes, by convincing each other they learn from us, by accepting our idea. Due to, shortage of land, totally we did not abandon our traditional practices. But, after she/ the trainer, taught us, we tried the practice and got good results, finally, we were convinced. The training given was suitable and applicable to our condition”.

The problems, identified by the trainees during the focus group discussion were:-

- Theoretical training.
- The interruption of the training program.
- Non-extension work assigned to DAs.
- Lack of facilities and teaching materials.
- Difficulty of reading and understanding the Oromiffaa alphabets/ Qubee.
- Farness of FTC from farmer’s residence.
- The training program was too lengthy.

- Due to time constraints, when the extension agents taught us, in a hurry, we missed some important points in between.
- The training program was lagged behind both by the absence of trainees and trainers.
- This situation will be a bad example, for the next batch, unless we learn properly and complete the courses offered in a short period of time.
- Lack of improved seeds and other technologies.
- Poor quality tomato seeds were supplied to us in the name of improved seeds.

Based on the focus group discussion the trainees have also suggested what they felt. The suggestions given by them were summarized as follows.

- As the training was prepared in ‘Afaan Oromo’ language, we have difficulty in reading, what we have written, therefore, if possible it is good if we could get the ‘Amharic’ version.
- The exercise book on which we wrote the lecture might be torn or misplaced therefore, to avoid this problem and to get the information what we missed during the lecture, if we are provided with printed handout or manual.
- Rather than theory, it is better if we learn more practically.
- In order to make the trainees familiar with new modern technologies the FTC has to be fulfilled by different teaching materials, audio visuals, models, samples etc.
- Until we complete the training program which already started, it is better not to assign the trainers for other tasks because, we came here to learn by abandoning our jobs.
- We need to see in practice what we have learnt in theory in order to gain a better knowledge. If, a program is arranged for us to visit an area out side our site, to see practically. Even, we can cover the costs if it is necessary.
- In the future, when we complete the training program, to be fruitful or to apply in practice what we have learnt in FTC a pre-condition have to be created for the trained farmers.

- We need seasonal market information to sell our products at a reasonable price (vegetables).

In general the focus group discussion held with trainee farmers was very interesting. Everybody have participated and forwarded what he felt. The discussion almost took two hour time. Finally the researcher concluded the discussion by motivating them to complete the training program morally without being absent and finally he expressed his heartfelt thanks for their active participation.

Focus group discussion carried out with trained farmers at ‘Golbo FTC’

In addition to cross check the problems of FTCs, the researcher has also conducted a focus group discussion with five(5) farmers, once who have taken training continuously for ten days at Golbo FTC. Golbo is one of the PA of Ada’a Woreda, which is 27 kms far away from Debrezeit town. The FTC has no access road and means of transportation. The researcher arrived there by the vehicle of his sponsors (IPMS). When he reached there; he met some farmers in the office of the ‘Kebele’ administration. After exchanging greetings, the researcher introduced himself and briefed them on his arrival to their PA. As a mark of respect, they brought a chair and asked him to sit on it. They called farmer who have attended the training program together in the office. The participants were five in numbers. Their age ranges from 26 to56 years.

After creating a rapport and every participant was willing for the group discussion, for the start up or ignition, the researcher asked the group members to tell him about the historical events of the training program which have been ceased. One of the dominant group member and others expressed the event of the training as follows.

“First, for the training program 20 female and 40 male, altogether sixty(60) farmers were selected from different villages in the PA. The farmers selected for the training were both literate and illiterate. The training started in April, 2008. When we first began, we were thirty (30) in number. At that time there were three extension agents with different profession. The training was a three month program. The training was given weekly for two days on Monday and Friday daily for five hours. These two days were selected

because, they are not market days. As, our FTC was not furnished by the necessary facilities for the training program we were attending the training in the primary school of our PA. In general, before we stopped the training program, within the ten days, we have learnt about improved seeds, fattening, modern animal husbandry, poultry production, compost preparation, soil and water conservation and natural resource management. We have learnt all the subjects in theory; we have not performed any practical session. The trainers told us that, in the future when every teaching material is fulfilled, you can learn in practice. The training was attended by those who are living near the FTC and no one came from the remotest villages. Last year there was drought, we got rain lately. Finally, when it started to rain in May, 2008 everybody who was attending the training program had stopped going for the training and turned his/her face for ploughing their plots. Although the extension agents said they had the instruction to continue the training program, we had to start our agricultural activities as there was rain. This, eventually, disturbed the training program. In the process, the earlier extension agents were transferred to other areas, and the training program, thus, got halted. Later on new extension agents arrived and we are ready to continue the training as we have realized its importance.

Considering the researcher as a high official and he might solve our problems by discussing with the concerned bodies, they continued in expressing their problems as the following. "We have acute water problem. Even if, there is a river around us, we are drinking the 'urine of donkeys'. Why the government didn't observe our problems by going until to the grass root level? We don't have road. During the rainy season, when the river- bank is flooded, we are unable even to bury, a dead person; we have difficulty in selling our farm products by transporting to the markets. We have contributed 39,800 birr, before, for the construction of road. But, it was damaged by flood as it was simply paved with a Grader. If we get an opportunity, we are ready to contribute money in the future."

Finally, the researcher asked the group members about their participation in the construction of the FTC and they expressed their contribution as follow:-

- Each house hold member of the PA has contributed 10 birr. The total HHs members are 495 and even the youth have contributed 5 birr per head.
- The community have provided one hectare of land for demonstration.
- We have fetched water during the construction time.
- We have loaded sand and stone for construction of FTC on 10 trucks/Lorries.

Every community member has awareness about FTC. Before the construction of FTC an awareness creation work has been carried out on a meeting and the people have also accepted the program.

Discussion with Tulu Dimtu PA manager/ Key informant

On February 03, 2009, the researcher arrived at Tulu Dimtu PA, which is 33 kms far away from the capital town in order to observe the status of the FTC. The researcher went to the center by the vehicle of IPMS, due to the problem of getting public transport. When he reached there the extension agents were not around and as an alternative to get information, he decided to talk with the kebele management committee. After a while, he got the PA manager/ Government representative at PA level/. By introducing himself the researcher told him about his arrival and went together to see the FTC. The researcher has observed in and out of the FTC and they sat together in the FTC office to discuss on FTC issues. The key of the office was with the manager. The researcher asked the manager, as a key informant, about the training program going on in the FTC. First, the manager showed the attendance of the trainees for the researcher, by saying that “when we start the program, they were around sixty seven (67) farmers, who have registered for the training, but, due to drop out now remained only eleven.” He also expressed the following points concerning their FTC.

- Even if, they have interest/ the farmers/, in connection with work, there is a problem of drop out and not giving priority for the training.
- The FTC is near for farmers of two villages but, it is far away for one village.
- The FTC has no fencing and guarding and due to this, so far we are not able to conduct demonstration, but, in a short period of time to fence the FTC, we are on contributing money from the community.

- We have lack of teaching materials, we teach farmers, even, by borrowing a black board from the primary school in our PA.
- In provision of demonstration land for FTC , there was a disagreement among farmers of the three villages and the problem has not been solved.
- One of the reasons for the drop out or stopping the training program was, once the extension agents have registered the trainees by promising to them that, they will get improved wheat seeds, but, due to shortage of input supply the trainees were not able to get any seed. Because of this discouragement and dissatisfaction, they stopped coming to the center by expressing their hate and by saying that ‘if we came again here let our legs be broken’.
- From remoteness or other reasons of motivation there is lack of support from the woreda.
- The extension agents are highly committed to teach farmers but, our problem is lack of material.
- The training was given both for educated and uneducated farmers.
- We teach side by side, ‘Afaan Oromo’ or ‘Qubee’ to solve the problem of reading and writing of Oromiffaa”.

During the group discussion with trained and untrained farmers and key informant a lot of valuable information was identified by the interaction of the group members which can be a lesson to correct the mistakes for the next batch. They were disappointed by the lengthy of the training program. As the training also focused on theory they did not acquired the appropriate skills. Due to the lengthy of the program and lack of sustainability most of the trainees have stopped coming to the center and this situation creates a bad example for other farmers. As their livelihood is based on farming they don’t want to waste their time due to opportunity cost. They have also expressed their dissatisfaction on the provision of improved seed technologies and on the promise given to them which was not translated indeed.

4.3.5. SWOT analysis of FTCs at Ada’a Woreda

SWOT is the acronym of strengths, weaknesses, opportunities and threats. It is a simple,

popular technique which can be used in preparing or amending plans, in problem solving and decision making. Identification of SWOTs is essential because subsequent steps in the process of planning for achievement of the selected objective may be derived from the SWOTs. It is particularly helpful in identifying areas for development.

SWOT analysis conducted during data collection and discussions with development agents, supervisors, extension communication expert and extension process owner at study area and at Oromia region Bureau of Agriculture and Rural Development reveal that the current FTCs operate under several internal(strong and weak points) and external conditions(opportunities and threats).

The description of SWOT and its analysis carried out at FTC/ PA, Woreda and regional level was presented briefly as follows.

4.3.5.1. Strengths, weakness, opportunities and threats of FTCs as expressed by DAs.

Strengths

- Ability to teach farmers about different technologies by supporting with demonstration, models, samples, etc practically in the field of crop production and protection, animal husbandry and natural resource management.
- Participation of the community in the construction of FTCs, in guarding and provision of land for demonstration in most PAs.
- Ability to start modular training program in many FTCs even, without the fulfillment of the necessary facilities and teaching materials.
- High interest and commitment among extension agents to teach farmers.
- Fulfillment of the required extension agents in 8 FTCs.
- Awareness creation to benefit community by services.
- Starting of teaching Afaan Oromo language/Qube to solve the problem of reading and writing in some PAs.

- In some PAs farmers have applied in practice what they have learnt at FTCs and became business oriented.
- Fulfillment of the necessary facilities and materials in eleven FTCs for the teaching-learning process.

Weaknesses

- Inability to train farmers successfully according to the plan.
- The delay of the training program even after the completion of FTCs.
- Failure to achieve the FTCs goal.
- Lack of quality in construction of some FTCs.
- An unaccomplishment of FTC buildings, the windows frame do not have glasses, some of them don't have toilet. No improved sanitation.
- In most FTCs the land given for demonstration was very small.
- The demonstration area of some FTCs is unfertile, rocky with hard pan, sloppy and degraded.
- Most of the FTCs have no fence and because of this the seedlings of trees, forages and fruits planted in the compound were eaten and damaged by livestock.
- The interruption of the training program in many FTCs.
- Inability to restart the interrupted training program by convincing farmers.
- Inability to provide the FTCs with the necessary facilities and materials for conducting the training program.
- Lack of water to conduct demonstration throughout the year, except Godino FTC
- Lack of electric power for using audio-visuals to teach farmers at FTCs.
- Some of the FTCs are isolated.
- Shortage of regular budget for the FTCs.
- Less commitment among kebele and Woreda management bodies.
- Weak monitoring and supervision.
- FTCs locations are far away from the residence of farmers.
- Drop out, inability to come on time for training and absenteeism.
- Non-educational work load on extension agents.

- Attitudinal and outlook problems.
- Unavailability of educated farmers and problem of reading and writing of ‘Qube’.

Even though, most of the FTCs have counted many years since their establishment and eleven of them have been fulfilled by the necessary facilities and teaching materials but, due to different reasons they are not able to translate the government policies and strategies into practice. The program lack sustainability. There are a lot of weaknesses in all FTCs in different aspects which needs due attention. To overcome these problems by all stake holders some motivational steps are required immediately to witness drastic changes in the study area.

Opportunities

- The presence of Agricultural Research Centers in the Woreda and in the zone.
- The presence of IPMS project in the Woreda.
- The presence of primary schools in the PAs.
- Willingness of the community to support FTCs in every aspect.
- Accessibility of FTCs to different infrastructures (road, electricity, water, school, health centers and telecommunication services).
- The presence of different institutions such as cooperatives, union, NGOs, modern private farms, agro-processing industries and governmental organizations in the Woreda.
- Opportunity to generate an income to cover the running costs of the centers by selling the results of the demonstrations conducted for teaching farmers.
- The availability of river water in ‘Godino’ FTC to produce or teach farmers throughout the year.
- Availability of electric power and Generators in three FTCs for teaching farmers by using audio-visual aids about new practices and technologies.
- Opportunity of access to and utilization of information for rural development.

Threats

- Difficulty or fear to convince farmers by conducting demonstration on the infertile and degraded land in some FTCs.

- Due to lack of quality in construction, there is a fear that some of the FTCs might be destroyed without giving any services for the community.
- Unless the FTCs are fulfilled by the necessary facilities and budget, the training program may cease and this may cause failure on the Government policies and strategies to achieve the planned goals.
- Farmers who have taken training so far have to be provided with inputs in order to apply into practice what they have learnt. If they could not get the inputs the training program may not be sustainable or lose its continuity.
- The compounds of FTCs have to be fenced properly and protected from the surrounding livestock in order to conduct a reliable demonstration that will attract the community.
- The function of FTCs may be under a question, and may stand for ever without functioning, unless the concerned bodies give due attention for this issue.
- Dispute on the demonstration area given to the FTC did not get solution by kebele and woreda(The case of Gobesaye and TuluDimtu FTCs).
- The less payment of salary to extension agents in relation to the current living standard and lack of chance for further education may be a question of survival whether to continue or discontinue their duties in the future.
- The creation of different untimely workloads on extension agents may interrupt the training program.
- Due to, low water holding capacity of the soil, there is a fear that, the trials which are conducted on the demonstration field might be destroyed.
- Farmers who are on training since the last three years, due to the lengthy duration of the program they might be fading up to finish the remaining courses and inability to graduate them immediately are their fears (Godino).

4.3.5.2. Strengths, weaknesses, opportunities and threats as expressed by four zonal supervisors.

Strengths

- Ability to teach farmers in the FTC compounds by conducting demonstration trails and by preparing different models and samples.
- Fulfillment of different equipments, teaching materials and other necessary facilities for the teaching-learning process in some FTCs.
- Fulfillment of the required trainers/ extension agents in eight (8) FTCs with different profession (plant science, animal husbandry and natural resource).
- The presence of morale and interest in the side of extension agents to teach farmers.

Weaknesses

- Inability of some FTCs to carry out the training program.
- Shortage of enough demonstration area.
- Low linkage with other development institutions.
- Shortage of regular budget for FTCs.
- Quality problem in the construction of FTCs.
- Unfulfillment of FTCs with the necessary facilities and materials.
- Some FTCs do not have toilets.
- The construction of some FTCs remained without completion.
- Less attention for FTCs by Woreda and Kebele management bodies.
- Low interest to learn in the side of farmers
- High dropout rate, not coming on time and absenteeism.
- Farness of FTCs from DAs and farmers residence.
- Provision of unfertile and unsuitable land for demonstration.

Opportunities

- The presence of Debrezeit agricultural research center in the Woreda.
- Most FTCs have access to information.
- Most of the FTCs have road and transportation access.

- Availability of electricity and generators for using audio visual aids.
- The presence of IPMS project in the Woreda.
- Availability of water for irrigation in Godino FTC.

Threats

- The constructed FTCs might be ruined without achieving their goal.
- The interruption of the training program might continue, unless attention is given to the issue.

4.3.5.3. SWOT of FTCs as expressed by Ada'a Woreda Extension personnel

Strengths

- It created opportunity to train farmers within their locality.
- The training was supported by demonstration to teach practically.
- DAs have interest to teach farmers and the farmers have also interest to learn.

Weaknesses

- Most of the farmers have no awareness and their interest to learn is also poor.
- Facilities problem.

Opportunities

- It can serve as a center of excellence where research results are popularized.
- The presence of political commitment to see the results of FTCs.

Threats

- Lack of teaching materials that has not been fully allocated to FTCs properly.
- With the existing condition training in FTC focus on farmers who relatively have better academic back ground, so there is a fear it might neglect those who are illiterate.

4.3.5.4. SWOT of FTCs as expressed by Oromia BoARD representative

Strengths

- Starting to serve as a center of information and technology demonstration.

Weaknesses

- A lot of them are not in a position to give/ provide training.

Opportunities

- Many farmers became aware of about the importance of technologies in increasing production and productivity.

Threats

- Constructing FTC without furnishing and keeping them out of training will lead the community not to involve in rural development activities.

Summary of SWOT analysis of FTCs as identified by extension personnel at different level of hierarchy

Assuming that the above stated factors under each of the strengths, weaknesses, opportunities and threats have the same weight of one unit; the SWOT summary of FTCs which were identified by different extension personnel from the grass root up to the top management level was presented as follows.

Table 14. Summary of SWOT analysis of FTCs by extension personnel at different level

Extension personnel	Weighted score			
	Strengths	Weaknesses	Opportunities	Threats
Extension agents	9	22	10	11
supervisors	4	13	6	2
Woreda level	3	2	2	2
Regional level	1	1	1	1

Source: own survey result, (2009)

On the basis of the above data, the strengths, weaknesses, opportunities and threats identified by development agents outweigh the strengths, weaknesses, opportunities and threats identified by supervisors, woreda extension personnel and the region. Also the

strengths, weaknesses, opportunities and threats identified by supervisors outweigh the strengths, weaknesses, opportunities and threats identified by the woreda and the region.

The above table reveals that as we go from the top hierarchy to the grass root level the problems are too much. As the extension agents are the front line who implements the government policies and strategies they do not hesitate in expressing the problems they face. But, as we go up there was a tendency to hide problems which can be seen on the ground reality.

Based on the SWOT analysis undertaken it is found out that most of the FTCs have fulfilled the necessary facilities and teaching materials. Some of them have computer, television and audio- visual aids. There is also a plan to connect these FTCs with internet net work in a short period of time. The study area is full of opportunities, because, there is a project which supports FTCs. There are agricultural research centers like Debre Zeit, Melkasa and Adami Tulu in the werda and within the zone. There are strong cooperatives and union. There are different governmental development institutions. There are modern dairy, poultry, horticultural farms and so on in the area to show farmers in practice what they have learnt in FTCs. There are also different agro-processing industries. There is also high expansion of investment in the area that helps for marketing. Comparatively; the study area has access to information and infrastructural facilities than other woreda's. Some of the activities which were carried out in the compound of some FTCs are also encouraging.

4.4. Opinion of trained and untrained farmers towards FTCs

The third objective of the study was to know farmers opinion towards the mandatory roles of FTCs. An opinion is a person's idea and thoughts towards something. One of the element or component that is required for the teaching-learning process is the availability of trainees/ clients (farmers, farm families and youth) who attend the training program and who are going to be benefited from the services of FTCs. If there is no client who uses the mandatory services of these institutions, it is a loss and wastage of scarce resources. Therefore, the study was conducted to know if there is favorable or

unfavorable opinion among farmers towards the services of farmers training centers in the study area. Cronbach's alpha co-efficient was used to calculate the reliability which was 0.616. Among the total thirty two (32) statements eighteen (18) were found with alpha value greater than 0.616. Hence, these eighteen statements were dropped and the remaining fourteen (14) statements were used to analyze respondents' perception towards the mandatory services of FTCs. Content validity was examined by a panel of experts comprising three extensionists before data collection.

In order to get an over view about the opinion of respondents towards the mandatory services of FTCs the trained and untrained farmer beneficiaries were grouped into three categories that is (a) less favorable(below 30), (b) favorable(30 to 38) and (c) most favorable(above 38). The groups were formed on the basis of calculated mean scores and standard deviation of the overall opinion scores obtained by the respondents as a whole. The distribution of respondents in each group under both categories of respondents is given in table 15.

Table 15. Distribution of respondents on the basis of their opinion towards the mandatory services of FTCs

Degree of opinion(In relative term)	Trained(80)		Untrained(80)		Pooled score(160)	
	F	%	F	%	F	%
Less favorable (below 30)	10	12.5	13	16.25	23	14.375
Favorable (30 to 38)	62	77.5	55	68.75	117	73.125
Most favorable (above 38)	8	10	12	15	20	12.5
Total	80	100.00	80	100.00	160	100.00

Source: own data result, 2009 F = frequency % = percentage

It can be observed from the data in Table 15 that nearly three-fourth of the overall FTCs beneficiary (73.125%) respondents were reported from the category of favorable opinion. Whereas (14.375%) of the respondents were placed in less favorable and only (12.5%) could be placed in the category of most favorable opinion towards the mandatory roles of FTCs.

It is noted that 77.5 percent of trained and 68.75 percent of untrained respondents were reported in the medium group. It was further noted that 12.5 percent of trained and 16.25 percent of untrained respondents fell in the category of less favorable opinion, while only 10 percent of trained and 15 percent of untrained respondents were found to be from the category of most favorable opinion towards the mandatory services of farmers training centers. An observation to the data further indicates that trained respondents had comparatively lower positive degree of opinion than that of untrained respondents in the study area.

Similarly table 16 visualizes the opinion of trained and untrained farmer's respondents towards the mandatory roles of FTCs. It is apparent from the data in table that the extension agents in FTC are highly motivated to serve and was ranked as first. Further both the category of respondents expressed their strong agreement with the statement that the development agents in FTC are highly experienced in matters of farming. The reflection of such a strong positive opinion may be because currently the main sources of information in rural area are extension agents. They are the front line workers that link farmers with the office of agriculture and rural development. They are the one who give extension and advisory services; there is no other alternative information provider except the public extension service. The trained farmers have strong opinion on the statement I have got a lot of information after the establishment of FTC.

The respondents have also given their agreement on the statements extension agents in FTC do not want to learn from farmers and community and the service given by FTC are not need based. It is interesting to note that both trained and untrained farmer respondents more or less nearly in a similar way have shown strong disagreement with the statement that going to FTC is wastage of time and extension agents teach farmers on technologies which we cannot apply in practice. The rank correlation value between trained and untrained farmers was found to be -0.056, which is statistically highly significant at 1% level of significance. The data support the proportion that there is a negative association between the ranks accorded by trained and untrained farmers to the different statements reflecting their opinion towards the mandatory roles of FTCs in the

study area. Conclusion therefore can be drawn that the opinion reflected by the two categories of farmers towards the mandatory services of FTCs was more or less similar.

Table 16. Opinion of respondent towards the mandatory roles of FTCs

No	Statement	Trained(80)		Untrained (80)		Total (160)	
		M S	Rank	MS	Rank	M S	Rank
1.	Going to FTC is wastage of time.	1.38	12	1.58	13	1.49	13
2.	The services given by FTCs are not need based.	1.52	11	1.76	11	1.64	11
3.	The information given at FTC did not consider our local situation.	1.75	9	1.92	8	1.83	8
4.	I have got a lot of information after the establishment of FTC.	4.33	1	3.57	4	3.95	3
5.	Due to lack of information we are exploited by brokers and traders.	2.50	6	2.62	5	2.56	6
6.	Thanks to extension agents we sell our products at a reasonable price.	3.12	5	2.43	6	2.72	5
7.	Extension agents who work at FTC do not want to learn from farmers & the community.	1.78	7	2.07	7	1.93	7
8.	I don't know for what purpose the FTC was established.	1.28	14	1.7	12	1.52	12
9.	The extension agents in FTC are highly motivated to serve us.	4.26	2	4.08	1	4.17	1
10	The DAs in FTC are highly experienced in matters of farming.	4.12	3	3.83	2	3.98	2
11	DAs in FTC serve the community by going until remote areas.	1.72	10	1.91	9	1.81	9
12	The DAs are not very sure of what they are advising us to do.	1.77	8	1.80	10	1.78	10
13	The extension agents teach farmers by showing practically.	3.90	4	3.65	3	3.77	4
14	Extension agents teach farmers on technologies which we cannot apply in practice.	1.4	13	1.56	14	1.48	14

Source: own survey result, 2009 MS = mean score, Rs = spearman's rank order correlation. Rs= -0.0567* *** correlation is significant at 1% level

Table 17. Significance of difference in opinion of trained and untrained farmers towards mandatory roles of FTC

Opinion towards FTC	trained		untrained		Z-value	Sig.
	mean	SD	mean	SD		
Opinion of trained and untrained	34.72	4.11	34.36	4.56	1.0	NS

SD-standard deviation NS = non significant

Table 17, revealed the calculated Z (1.0) was not significant statistically.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary and conclusion

The research study was conducted in Ada'a Woreda, situated in East shewa zone, Oromia region. The woreda is 45 km away from Addis Ababa. Among 11 woredas of East shewa zone, Ada'a woreda is relatively potential for agriculture production and has a lot of opportunities for rural development.

To enhance rural development and agricultural transformation in the Woreda different development activities have been implemented by government, non-government and the community. Among these development activities carried out is the establishing of FTCs in every peasant associations, in order, to increase production and productivity by building the capacity of the rural community through extension education. Starting 2004 up to 2008 twenty seven (27) FTCs have been constructed in the woreda and currently sixteen of them are functional and semi-functional. However, their present status, opportunities for their advancement, constraints that impeded them in implementing their mandatory roles and the opinion of beneficiaries towards the mandatory roles of FTCs were not identified through empirical studies to take proper action to enhance the output and optimize the extension services given by farmer training centers (FTCs).

The study was carried out to assess the status of FTCs; to identify opportunities and constraints of FTCs; and to know the opinion of farmers towards the mandatory roles of FTCs in the Woreda. Accordingly, the study identified the organizational and operational status of FTCs in relation to the government policies and strategies, the opportunities for strengthening FTCs, the constraints that hampered FTCs in implementing their mandatory roles and trained and untrained farmers opinion towards the mandatory roles of FTCs.

Furthermore, to support the findings of the study, focus group discussions were carried out with trained and untrained farmers, key informants and extension personnel

formally and informally. Moreover, SWOT analysis was under taken at different level of hierarchy to identify key internal and external factors that are important to achieving FTCs objectives. The researcher has also collected a lot of information through observation while he was assessing the status of the FTCs in the study area.

It is concluded from the results that concerning the organizational status of FTCs, the nearer FTC to the woreda town is 3 km and the farthest FTC is 33 km away. The mean distance of FTCs from woreda town is 14.375 km. The construction design of all FTCs is the same. They have one wider class room, one office, and one store. Toilets with two partition holes were also separately constructed in the compound. Majority of the FTCs were established in 2004/05 and 2005/06. One FTC does not have residence for extension agents. Some FTCs lack quality in construction. Few of them have started to crack and ruin before achieving their goal. Some of them do not have toilet at all. Some of the FTCs are far away from farmers and DAs residence and few of them are isolated from villages. Only seven FTCs have access to all weather roads. All of the extension agents and supervisors working in the study area do not have transportation facilities. They serve their clients by going on foot from village to village. Except one FTC the rest do not have water for irrigation. Only the previously established, six FTCs have curriculum and the remaining do not have. All the extension agents have teaching modules which were prepared in ‘Afaan Oromo’ and Amharic language by Oromia region and federal MoARD. Even if, it is not that much active, every FTC has a development committee who run the FTC work activities. Except eight FTCs all the rest have less than one hectare of land for demonstration. Only four FTCs(Dire, Hidi, Katila and Yerer) have fulfilled the recommended amount of land. Some of the area given for FTCs lack fertility. The land provided for demonstration area was sloppy, degraded and rocky with a hard pan. Three FTCs have rented part of their demonstration area in order to get income for running their FTCs.

All of the FTCs do not have permanent budget for FTCs but, this year 500 birr was allocated for each FTC for stationery purpose only. Most of the FTCs are not fenced and even, those which were fenced; they are not strong enough to protect the entrance of

livestock in their compounds. Out of the sixteen FTCs only seven of them have guard and the rest do not have. The monthly salary of the guards is covered by the community. Among the sixteen FTCs, eleven of them (64.25%) more or less have fulfilled teaching materials, equipments and sitting accommodation for the teaching-learning process. Four FTCs which are supported by IPMS have a better status among the others. These FTCs have electric power source, computers with printers, television, DVD etc. Eight FTCs (50% of them) have fulfilled the recommended numbers of extension agents. Additionally, 5 DAs with a profession of plant science, 2 DAs with animal science and 1 DA with natural resource are required to fill the gap and to fulfill the recommended number of trainers.

Concerning the present operational status, at present all FTCs give extension services, advisory services, market information, and short term training for farmers. But, in the case of modular training, even if, it was not fruitful and sustainable except two FTCs all the others have tried to give training starting 2005 upto 2009. Few FTCs have trained two batches at different year and ceased without completion. Only Godino FTC has been successfully completed after two years, the offered courses for twenty five (25) trainees. Even, Godino has not fulfilled the recommended number. Most of the time was allocated for theory rather than practice and this situation contradict with the proposed time allocation which is 20% for theory and 80% for practice. Ten of the FTCs have tried to teach farmers by conducting demonstration and by preparing models and samples in their compounds.

According to the extension personnel identification and the SWOT analysis the woreda has a lot of opportunities for the advancement of FTCs. The major opportunities ranked by extension personnel, based on their importance were, the presence of agricultural and rural development policies and strategies, the presence of clear guide line, curriculum and modules, the availability of enough extension personnel and transportation facilities, the presence of infrastructural facilities throughout the woreda and access to information and to communicate with FTCs, the presence of agricultural research centers in the woreda and within the zone, high community participation, political

commitment, the presence of IPMS project in the woreda and the presence of cooperatives, input supply and credit institutions. The researcher has also realized the presence of other institutions in the woreda which can be used as an opportunity to strengthening FTCs. Some of the institutions are national veterinary research institute, faculty of veterinary medicine, milk and meat technology institute, private modern farms, agro-processing industries and so on.

It could be concluded from the above discussions that low community participation, non-educational work load on extension agents, lack of permanent budget, high drop out rate of trainees from FTCs, expectation of some benefits in the side of farmers, lack of teaching materials and equipments, lack of infrastructural facilities, weak monitoring and evaluation system, shortage of demonstration area and provision of unsuitable land for FTCs, unavailability of educated farmers for the 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 in order of importance listed out by the woreda extension personnel, extension agents and farmers during the focus group discussion.

Drop out of trainees from the training program, lack of teaching materials, lack of support from 'kebele' and woreda, shortage of budget, unavailability of educated farmers, lack of awareness, poor community participation and expecting benefits, lack of skill and need for further training, occurrence of untimely rainfall, lack of transportation, closing the training program due to non-educational work and meetings, farness of FTC from DAs residence, nearness of PA to town and expansion of investment(farmers are not available they go to work off farm activities to get an income), ignoring what they know to learn and need for new innovations, unfulfillment of trainers in every field of specialization, nothing to show practically and lack of water were also the problems that encountered extension agents during the teaching-learning process in FTCs since the last two years.

The problems, identified by the trainees during the focus group discussion were:-

the training which was given to them was theoretical; the interruption of the training program; assigning the extension agents for another task in between; the FTC was not fulfilled by the necessary facilities and teaching materials; for most of them as the FTC was far away, and consumed much of their time; the training program was too lengthy, we are not able to complete the six month courses within the stipulated period; due to time constraints, when the extension agents taught them in hurry they miss some important points in between; the training program was lagged behind both by the absence of trainees and trainers, lack of improved seeds and other technologies and lack of quality. They have also identified road, market, the rising price of fertilizer and acute shortage of water as hurdles in the way of successful completion.

Therefore, it can be concluded from the study that out of the sixteen(16) FTCs assessed four of them(25%) which are supported by IPMS project have fulfilled the basic teaching materials, equipment and facilities for the teaching-learning process in a better way than the others and their problems are less severe. From the sixteen FTCs also seven of them (43.75%) have fulfilled the basic teaching materials, facilities and equipment moderately for the teaching-learning process and their problem is severe. In other way, the five FTCs (31.25%) of them have not equipped with the necessary facilities for the teaching-learning process and the problem of these FTCs and their problems are more severe. Most of the FTCs were not able to realize the government's program in to practice. Although, the studied area has ample of opportunities to make FTC's more effective, however, the training program lacks sustainability. Even if, the level varies, all of the FTCs have a lot of constraints and weaknesses in implementing their tasks. Concerning farmers opinion towards the mandatory roles of FTCs, majority of the FTC's beneficiary respondents were from the category of favorable opinion. The perception reflected by trained and untrained farmers towards the mandatory services of FTC's was more or less similar. Hence, there was no significance difference between trained and untrained farmers regarding their opinion towards FTCs.

5.2. Recommendations

Based on the findings of this study, the following issues are forwarded as recommendations that assist to improve the effectiveness of farmers training centers in implementing their mandatory roles.

- One of the major constraints that has been identified and perceived by extension personnel was low community participation which has to be given a great attention among all constraints, because, even those FTCs which have fulfilled teaching materials did not become effective and fully operational. Most of the FTCs were established before four and five years. In relation to their age their performance was not satisfactory. In fact, changing the mind and behavior of human being is not an easy task. To bring about behavioral and attitudinal changes it needs patience. Therefore, before execution of any program, changing the attitude of people by educating and motivating them is very important. The fundamental objective of extension is to develop the rural people economically, socially and culturally by means of education. A continuous awareness creation work has to be done through the local leaders of the area.
- One of the major constraints which were identified was non-extension work load. The end product of the effort of extension teaching is the satisfaction that comes to the farmer, his wife or youngsters as the result of solving a problem, meeting a need, acquiring a new skill or some other changes in behavior. Satisfaction is the key to success in extension work. Therefore, to attract the community members towards FTCs, assigning highly committed and well experienced extension agent is very crucial. The effectiveness of the work of farmers' training center is almost entirely dependent upon the quality, ability, competence and commitment of extension agents. They have to be provided by the necessary incentives (like salary payment, education, housing, transportation, promotion etc.) to keep their morale according the result they brought.
- Another major constraint identified was that the training program was not to the

interests and expectations of the farmers. Therefore farmer training courses must be need centered or courses must be offered after a training need is identified. These needs and interests differ from individual to individual, from village to village and from one agro-ecology to another agro-ecology. Therefore, to make the training program more effective and fruitful, the training must be designed according to farmers' needs and interests, by preparing a menu list of courses with their duration.

- Another problem that came to surface in focus group discussion was that the training programs level of theoretical nature. Hence, the courses offered at FTCs must be more practical rather than theoretical in order to make both educated and uneducated farmers more skillful. Therefore, to give life for the learning at FTCs in the Woreda especially on the model FTCs which are supported by IPMS, a real demonstration (practicals) must be carried out in the compounds of FTCs according to the contexts of the area.
- One of the constraints expressed by extension agents was lack of support from 'kebele' and woreda. The linkage of FTCs with different development institutions is also poor. Changing the attitude and behavior of farmers is not only the task of front line extension agents. Every concerned stake holders have to work in collaboration 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. The woreda office of agriculture and rural development has to create a strong relation with Debre Zeit agricultural research center and other institutions to use the FTC compounds for technologies development and popularization. The inexperienced extension agents have also to be supported by the woreda, zonal and regional experts to build their capacity.
- Weak monitoring and supervision system was the other finding of the study. Hence, to make the roles of FTCs more effective, there must be a regular

monitoring and evaluation system. Critical supervision, monitoring and evaluation should be thoroughly carried out in order to move FTCs on the right track. Monitoring and evaluation is essential so that all stake holders and the teaching staff at FTC are satisfied that the center is, at all times, catering for the needs of the farming community. The researcher has observed also the presence of communication gap between kebele and woreda and between woreda and region. This communication gap can also be solved or bridged by strengthening the monitoring and evaluation system.

- Lack of educated farmers was one of the constraints of the finding. Currently more of the training was given theoretically, for both educated and illiterate farmers. In some FTCs, extension agents have faced a problem in delivering the lecture to farmers, because, illiterate farmers have difficulty in reading and writing. To overcome this problem some FTCs have already started to teach illiterate farmers who do not know ‘Afaan Oromo’ besides the training program. This is really, a good example for others and can be appreciated. Hence, to solve the problem of illiteracy and to create educated farmers in rural areas the concerned governmental and nongovernmental organizations have to design a basic education program to eradicate illiteracy from the study area. Those who have started already to teach ‘Afaan Oromo’ have also to be supported morally and materially.
- The other important constraint identified by extension agents, woreda extension personnel and key informants was the drop out of trainees from FTCs and expectation of some benefits in the side of farmers. Therefore, in order to solve these serious problems, beside the awareness creation work, the woreda cabinet has also the responsibility to search a solution by studying the issue thoroughly and to design a program for motivating trainees to attract farmers to participate in the training program.
- Lack of permanent budget for the operation of FTCs is the other constraint.

Hence, to solve the financial constraint, the woreda in collaboration with the respective kebeles have to allocate budget and they have to search other income options. For example, to create income generating agricultural activities in the FTC compounds which can be used at the same time for teaching farmers.

- One of the issues raised by trained farmers during the focus group discussion was lack of reference manual. Hence, as much as possible printed manuals or handouts should be provided for farmers after they complete the training program which can serve as a guideline not to forget what they have learnt in the center. The centers which have no curriculum and guidelines have also to be provided by these documents. The eight FTCs have also to be fulfilled by the required extension agents based on the recommendation.
- To conclude, the researcher believes that to make FTCs an excellence and knowledge centers it is better to start with a few model FTCs and to expand the scope step by step gradually by evaluating their success to make the training effective.

6. REFERENCES

Addis Yalew,1991. The Role of Farmer Training Centers in Rural Development with a Special Reference to Ethiopia. An MA thesis presented to Reading University, Reading.

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.

Amanor, Kojo and John Farrington, 1991. NGOs and Agricultural Technology Development in Agricultural Extension: World Wide Institutional Innovation and Forces for Change, W.M. Rivera and D.J. Gustafson (Eds.). Amsterdam: Elsevier.

Ames, G.C.W., 1989. Human Capital, Agricultural Development and the African Food crisis. *An Agricultural Administration and Extension*, 28, 1-17.

Arnon,1981. Modernization of agriculture in developing countries. Resources, potentials and problems. John Wiley and Sons, Chichester, New York.

Assefa Feyisa ,1991. Aim and Implementation Problems of Agarfa Multipurpose Farmer Training Centre in Ethiopia. An M.A thesis presented to Aberdeen University, Aberdeen.

AWARDO, 2009. Woreda Statistics Report. Ada'a Woreda, DebreZeit.

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

Bari, Mahbubul, A.K.,1987. Training and Education in Rural Development. BIDS, Dhaka.

Barwell, C.W., 1975. Farmer Training in the East-Central and Southern Africa, FAO, Rome.

Belay Kassa, 2002. Constraints to agricultural extension work in Ethiopia: The insiders' view. *South African Journal of Agricultural Extension*. 31, 63-79.

Belay Kassa, and Degnet Abebaw,2004. Challenges facing agricultural extension agents: a case study from south-western Ethiopia, African Development Bank, Black well Publishing Ltd, Oxford.

Bekele Tassew, 2004. Comparative Agricultural Extension: Ambo college, Jimma University.

Bembridge, T.J.,1989. An Evaluation of the Venda Agricultural Extension Service. *South African Journal of Agricultural Extension*, 15, 125-279.

Bembridge, T.J., 1991. The Practice of Agricultural Extension: A Training Manual, Cape town: Development Bank of South Africa.

Berhanu Gebre Medhin, 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 1. ILRI, Nairobi.

Bernor, Daniel and Baxter, Michael 1984. Training and Visit Extension: The World Bank, Washington, D.C.

Best, John W. and James V. Kahn, (Eds.).1998. Research in education. Prentice Hall inc. New Delhi.

Byrnes, F.C. and Byrnes, K.J., 1971. Agricultural extension and education in developing countries: in Rural development in changing world. MIT press, Cambridge.

Chang, C.W., 1962. Increasing food production through education, research and extension: FFHC basic study, 9, FAO, Rome.

Chaudhary, M.A. and Al-Haj, F.M. 1985. Agricultural Education and Extension in Developing Countries. *Agricultural Administration*, 20, 169-186.

Clark, Richard W., 1987. Human Resource Development: Key to Extension Survival. *Journal of Extension*, 25, 25-26.

Coombs, Philip and Manzour Ahmed, 1974. *Attacking Rural Poverty: How non- formal education can help?* Baltimore: John Hopkins University Press.

Coombs, P.H., 1985. *The world crisis in education: the view from eighties.* Oxford, Oxford University Press.

Ely, D.P., 1985. Education and Training: Two paths or one? *Programmed learning and Education technology.* 22, 75-77.

Esman, Milton Jacob, 1980. *Para Professional in Rural Development.* New York: Ithaca.

Esshetu Tefera, 2008. *The role of dairy cooperative in stimulating innovation and market oriented small holder development: The case of Ada'a Dairy cooperative.* An M.Sc thesis presented to the School of Graduate Studies of Haramaya University.

EU, 2005. *Small and medium size enterprise project monitoring and evaluation Manual.* EU consultants, Brussels.

Fagerlind, Ingmar and Lalerance J.Saha, 1989. *Education and National Development: a Comparative Perspective.* Oxford, Program on Press.

FAO, 1975. *Training and the Green Revolution in the Training for Agricultural and Rural Development.* FAO, Rome.

FAO, 1979. *Training for Agriculture and Rural Development.* FAO, Rome.

FAO, 1980. *A Report Review, Major Methods of Farmers Training in Developing Countries, Training for Agricultural Development.* FAO, Rome.

FAO, 2008. *Key messages from a study on Ethiopia extension systems, (based on the work of Habtemariam Abate)* FAO, Addis Ababa.

Fay, Ivan G., 1962. *Notes on Extension in Agriculture.* London, Asia Publishing House.

Habtemariam Abate, 1997. Targeting Extension Service and the Extension Package Approach in Ethiopia, MoA, Addis Ababa.

Habtemariam Abate, 2007. Review of Extension Systems Applied in Ethiopia with Special Emphasis to the Participatory Demonstration and Training Extension System, FAO, Addis Ababa.

Habtemariam Kassa, 2005. Historical Development and Current Challenges of Agricultural Extension with Particular Emphasis on Ethiopia, working paper 2, Ethiopian Economic Research Institute, Addis Ababa.

Howe, A., 1985. Education and Training: Is there any difference? *Programmed Learning and Education technology*, 22, 1-6.

Howell, J., 1989. Public Investment in Africa's Extension Services. In Nigel Roberts (Ed.). *Agricultural Extension in Africa. A World Bank Symposium* (pp.85-91). Washington, The World Bank.

IPMS, 2005. Ada'a-Liben Woreda Pilot Learning Site Diagnosis and Program Design. ILRI, Addis Ababa.

Kefyalew Worku, 2006. Evaluation of farmers training programmes: the case of eastern Haraghe (Babile and Hudne Woredas). An M.Sc thesis presented to the School of Graduate Studies of Haramaya University.

Lele Uma, 1975. *The design of Rural Development: Lessons from Africa*. Baltimore, John Hopkins University Press.

Markham, A.E.G., 1965. *Agricultural Education and Training in Africa*, Dakar, AIDEP.

Marshall, A., 1920. *Principles of Economics*, (8th ed.). New York, Macmillan.

MoA, 1980a . Southern zone farmers' multipurpose training center project proposal 1, MoA , Addis Ababa.

MoA, 2000. Farmers Training Centers Project Proposal. M0A , Addis Ababa.

MoA, 2002. ATVET Program of Agricultural Sector: MoA, Addis Ababa.

MoARD, 2005. Working Guidelines of Farmers Training Centers. (Amharic Version), MoARD, Addis Ababa.

MoARD, 2006. Federal Democratic Republic of Ethiopia, Agricultural Policies, Programs and Targets for a Plan for Accelerated and Sustainable Development to End Poverty, MoARD, Addis Ababa.

MoARD, 2007. National level extension activities performance evaluation report (unpublished). MoARD, Addis Ababa.

MoARD, 2008. National level extension need assessment report(unpublished).MoARD, Addis Ababa.

MoARD, 2009. Overall number of extension agents data graduated from ATVET colleges. Unpublished, ATVET program coordination office, Agricultural Extension Directorate, MoARD, Addis Ababa.

MoI, 2001. The government of the Federal Democratic Republic of Ethiopia, Rural Development Policies, Strategies and Instruments. MoI, Addis Ababa.

Moris, Jan, 1967. Farmer training as a strategy of rural development. Education, employment and rural development report of the *kericho*(Kenya) Conference, Nairobi, East Africa publishing house, 26, 1- 499.

Mulugeta, Tafa, 2008.The role of farmer research group in technology generation and adoption: The case of onion producing farmers' research group at Adama and Dodota Sire Woreda. An M.Sc thesis presented to the School of Graduate Studies of Haramaya University.

Osman Surur, 2007. Effectiveness of agricultural training development program: The case of teff and livestock farmers of Alaba woreda. An MSc thesis presented to the School of Graduate Studies of Haramaya University.

Purcell, Dennis L., and Jock R. Anderson, 1997. Agricultural extension and research achievements and problems in national systems. World Bank operation evaluation study. Washington D.C, World Bank.

Rogers, Alan, 1988. Teaching Adults. Philadelphia, Open University Press.

Rogers, E.M. and Svenning, L., 1969. Modernization among peasants. Rinchart and Winston, INC, New York.

Roling, N., 1988. Extension Science Information Systems in Agricultural Development. New York, Cambridge.

Samson Eshetu, 2007. Communication patterns among extension personnel and farmers: A case of Dire Dawa Administrative Council. An M.Sc thesis presented to the Sokoine University of Agriculture, Morogoro.

Schultz, T.W., 1981. Investing in People-The economics of Population Quality. Berkley, University of California Press.

Seya, Pierre Thizier, 2005. Adult Education and African Development in the Context of Globalization. In Adult Education and Development, Institute for International Cooperation, Bonn.

Spicer, H.E., 1986. Human problems in technological change. In Peter E.Hildebrand (Ed.). Perspectives on Farming Systems Research and Extension (pp.104-117). Colorado, Boulder. Lynne Rienner.

Sheffield, James R. and Victor Diejomach, 1972. Non-formal education in African Development. New York: African American Institute.

Singh, A.K., 2001. Agricultural Extension: Impact and Assessment. Himalayan publications, New Delhi.

Swanson, B.E., and Cloar, J.B. 1984. The History and Development of Agricultural Extension. A Reference Manual (2nd ed.). FAO, Rome.

Swanson.B.E., Farner, B.J., and Bahal, R. 1990.The current status of Agricultural Extension worldwide, In B.E. Swanson (Ed.), Report of Global consultation on Agricultural Extension, FAO, Rome.

Swanson B.E., R.P. Bentz and A.J. Safranko. 1997. Improving Agricultural Extension:a Reference manual, FAO, Rome.

The American Heritage Dictionary of the English language, 2007, (4th ed.). Houghton Mifflin company, Houghton.

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

Urio, A.H., 1996. Comparative study of two agricultural extension approaches in Dodoma Region, Tanzania. An M.Sc thesis presented to the University of Agriculture, Morogoro.

Vince Ashworth, 2005. The challenges of change for agricultural extension in Ethiopia, A discussion paper, IPMS/ILRI , Addis Ababa.

Von Blankenburg, P., 1984. Agricultural Extension System in Some African and Asian countries-An Analysis of Country Reports. Economic and social Development Paper 46, FAO, Rome.

White, W.F., 1986. The need for a new strategy. In Peter E. Hildebrand (Ed.). Perspectives on Farming Systems Research and Extension (pp.1-12). Colorado: Boulder. Lynnie Rienner.

World Bank, 1990. Agricultural Extension: The Next Step. Policy and Research Series 13, World Bank, Washington, D.C.

Youdeowei, Anthony and Joseph, Kawrteng, 1995. Development of Training Materials in Agriculture: A Course Manual. Sayce Publishing, London.

Zeitlyn, Jonathan, 1992. Appropriate media for training and development. Tool Publications, Dhaka.

Web Reference

Krishi world, 2009. The Pulse of Indian Agriculture: Agricultural Extension Education, Learning and Teaching in Extension. [http // www. krishiworld. com/ html. agri-extension-edui.html](http://www.krishiworld.com/html/agri-extension-edui.html), (Retrieved on January 15,2009).

World Agroforestry Center, 2009. Linking education and sustainable resource management. [http: //www. world agroforestry center.org/training/ future farmers](http://www.worldagroforestrycenter.org/training/futurefarmers). (Retrieved on May 23, 2009).

WIC, 2008. Some109 farmers training centers go operational in East Shewa zone. [http:// www. walta info.com/ wal/new/index-php?option/content and task](http://www.waltainfo.com/wal/new/index-php?option=content&task) (Retrieved on May 23, 2009).

Merriam-Webster Online Dictionary, 2009. Definition of Assess. [http://www.merriam-webster.com/dictionary/ asses](http://www.merriam-webster.com/dictionary/asses) (Retrieved on June 13, 2009).

Merriam-Webster Online Dictionary, 2009. Definition of Opinion. [http// www. merriam-webster. com/dictionary/ opinion](http://www.merriam-webster.com/dictionary/opinion) (Retrieved on June 13, 2009).

Merriam-Webster Online Dictionary,2009. Definition of Status. [http// www. merriam-webster. com/ dictionary/status](http://www.merriam-webster.com/dictionary/status) (Retrieved on June13, 2009).

Wekipedia, the Free Encyclopedia, 2009. [http:// en. org/ wiki/ SWOT-analysis](http://en.org/wiki/SWOT-analysis)(Retrieved on June 13, 2009).

7. APPENDICES

Appendix 1. Questionnaires for Woreda and Regional officials

1. Please answer the entire question
2. Your answer will be kept confidential
3. If necessary, please feel free to answer in oromiffaa or in Amharic language.

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

1. General information

1.1 Name of respondent _____

1.2 Name of Organization _____

Region _____

Zone _____

Woreda _____

2. What is their current status?

2.1 Number of FTCs which are functioning _____

Number of FTC which are not functioning _____

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

2.4 Number of farmers who have taken modular training? Male _____

Female _____ Total _____

2.5 Number of farmers who have taken short term training since the last two years in FTCs? Male _____ female _____ total _____

3 List the courses commonly offered to farmers at the centers?

a) _____ d) _____

b) _____ e) _____

c) _____ f) _____

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

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

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

5 Is there any provision for conducting training needs assessment before finalizing the content of training?

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

a) _____

b) _____

7. Is training provided for women and youth?

Yes _____ No _____

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

- a) _____ e) _____
- b) _____ f) _____
- c) _____ g) _____
- d) _____ h) _____

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

- a) _____
- b) _____
- c) _____
- d) _____

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

a) Strengths

b) Weaknesses

c) Opportunities

d) Threats

11. What overall suggestions can be made for the better management of the training programmes conducted at FTCs?

- a) _____
- b) _____

Appendix 2. Questionnaires to assess the status of FTCs

1. General information concerning the present status

1.1 Name of FTC _____

1.2 Name of PA _____

1.3 Distance from Woreda town _____ km

1.4 Year of FTC establishment _____ E.C.

1.5 Materials used for constructing the wall of FTC.

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

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

1.7 In your view what is the present status of FTC ?:

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

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

No	Staff members	Qualification	Expeience

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

1. Yes 2. No

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

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

1. Yes 2.No

1.12. Type of services given by the FTC

- a) _____ d) _____
 b) _____ e) _____
 c) _____ f) _____

1.13 Is there a guard service to protect the FTC from theft?

- a)Yes b) No

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

- a)Curriculum design _____
 b)Text book preparation _____
 c)Training aid materials _____

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

4. Concerning availability of infrastructural facilities and other requirements

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

6. How many farmers were benefited from the different services of the FTC since the last 2 years?

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

Appendix 3. Questionnaire to be filled by extension agents at FTCs

Personal and demographic information of DAs

1. Personal details

1.1. Name of DA _____

1.2. Age _____

1.3. Sex : Male _____ Female _____

1.4. Marital Status

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

1.5. Education level

1) Secondary school 2) Certificate 3) Diploma 4) Degree

1.6. Field of Study/specialization at Diploma level?

1) plant science 2) Animal science 3) Natural science
2) 4) Animal health 5) Cooperative 6) Others (specify)

1.7. Currently are you working with your profession ?

1) Yes 2) No

1.8. Work experience in agricultural sector _____ years

1.9. Where did your family live?

1) urban 2) Rural

1.10. What is your family major occupation?

1) Agriculture 2) Trade 3) Civil servants 4) other (specify)

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

1) I had highest interest to serve rural people
2) Lack of other Job opportunities
3) My grade did not allow me to study other fields
4) I was forced to enter ATVET by a quota
5) others (specify)

1.12. Indicate the field of profession that you are attending currently

1) Agriculture 2) Management 3) Accounting 4)
Economic 5) Other (specify)

1.13. Did you perform non educational work activities?

1. Yes 2. No

1.14. If yes, how much of your work time did you spend for non- educational activities?

1) Quarter 2) half 3) Three fourth 4) non at all

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

a) _____ c) _____
b) _____ d) _____

Institutional Factor

2. Organizational Communication

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

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

2.2. What are the forms of communication?

- 1) verbal 2) written 3) group discussion 4) meetings

3. Number of extension personnel

3.1. How many extension agents exist at present in your center ?

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

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

- 1) Yes 2) No

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

4. Quality of college education

4.1. How was the relevancy of the Diploma or Degree that you obtained in performing your job?

- 1) Very relevant 2) Somewhat relevant 3) Not very relevant 4) Not at all relevant

5. Availability of different infrastructural facilities

5.1. Do you have the following infrastructural facilities ?

No	Item /Facilities	Yes	No	Remarks
	Class room Office Workshop Store Exhibition hall Residence Toilet Metrology station Clinic Water supply Electricity Telecommunication All weather road			

6. Training Curriculum

6.1 Do you have a training curriculum in your FTC?

- 1) yes 2) No

6.2 If you have, who prepared the training curriculum?

- 1) Federal MOARD 2) Oromia RARDB 3) Zonal ARDB 4) Woreda ARDO 5) other [specify]

6.3 How do you evaluate the training curriculum?

1) excellent 2) very good 3) good 4) It is not prepared to our context

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

a) _____

b) _____

7. Concerning incentives

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

No	Item /Incentive	poor	Good	Very good	Excellent
01	Incentive provision				
02	Salary payment				
03	Promotion avenue				

8. Training Provision for extension staff

8.1. Is there any training Provision for extension staff working in FTC?

1) Yes 2) No

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

1) one time 2) two times 3) 3 times 4) 4times 5) not all

8.3 If you have got the chance to train how do you evaluate the relevance of the training to your job?

1.) very relevance 2) relevance 3) less relevance 4) Not relevance

9. Budget allocation

9.1. Do FTCs have annual budget for their operation? 1. Yes 2. No

9.2. what is the annual budget of FTC you are serving ? _____

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

1) yes 2) No

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

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

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

- 1) Yes 2)No

9.6 If No, how do you carry out the training program and other FTC mandatory activities?

- a) _____
 b) _____
 c) _____

10.Linkage with other development institutions

10.1. Do your FTC has linkage with different development institutions?

1. Yes 2.No

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

1. very good 2.good 3.fair 4.poor 5.No linkage

10.3. How is the linkage of FTC with the following institution?

No	Institutions	Very good	Good	Fair	Poor	No linkage
1	Research centers					
2	Co-operatives					
3	Input supplier					
4	NGOs					
5	Investors					
6	Woreda oARD					

11. Demonstration Field

11.1. Do you have enough demonstration areas for training farmers Practically? 1. Yes 2. No

11.2. If yes, How many hectares of land do you have?

- 1) less than one 2) 1-2ha 3) 3 ha 4) 4 ha 5) 5ha

11.3. If No, how do you train farmers in practice?

- 1) By taking to the field of private farmers
- 2) By taking to research centre
- 3) By taking to the nearby modern private or state farm
- 4) No other choice than theoretical teaching

11.4. How far is the demonstration field from the FTC?

- 1) It is in the same compound
- 2) one km far away
- 3) Two kms far away
- 4) more than three kms

12. Transportation facilities

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

- 1) Yes 2) No

12.2 If yes, what types of transportation do you have?

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

12.3 If No, How do you serve your clients?

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

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

- 1) yes 2) No

13. Training methods

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

1. Lecture
2. Meeting
3. Method demonstration
4. Result demonstration
5. Group discussion
6. Field day
7. Others Specify

13.2. From the above methods which was fruitful for training farmers?

a) _____

b) _____

13.3. In the last two years in the training process what problems did you consider?
List the major one?

a) _____

d) _____

b) _____

e) _____

c) _____

f) _____

14 . Training materials

14.1 Do you have enough training materials in the centre?

1) Yes

2) No

14.2. If No, how do you carry out training to farmers?

a) _____

c) _____

b) _____

d) _____

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

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

2) Lack of Knowledge how to develop these materials

3) misuse / In efficient use of materials

4) Lack of electric power to use audio visuals

15 . Location of FTC

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

1) yes

2) No

15.2. If yes , how?

1) it is far away and not easily accessible

2) is reasonably near but not easily accessible

3) Is near and easily accessible

4) very far although accessible by transport

15.3. In average , How many kms far away are the beneficiaries of the FTC from the location?

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

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

18.3. Is the Support enough to carry out FTC, mandatory functions?

1) Yes

2) No

19. Community Participation

19.1. Do the Community Participate in FTC activities? 1.Yes 2.No

19.2. How was the community Participation in the following areas?

No	Areas of Participation	Level of participation				
		Very poor	Poor	Good	Very good	Excellent
01	Provision of Land for construction of FTC and demonstration					
02	Provision of construction materials					
03	Human labor contribution					
04	Contribution of money					
05	Guarding FTC resources					
06	In community Problem identification					
07	In Program Planning					
08	In implementing the plan					
09	In monitoring and evaluation					
10	Others (Specify)					

19.3 If the level of participation is very low and low what are the reasons do you think?

- a) _____ d) _____
b) _____ e) _____
c) _____ f) _____

20. General information

20.1. In your opinion what are the major problems of FTCs'?

- a) _____
b) _____
c) _____
d) _____
e) _____

20.2 Please, how can we make the farmers training programs at FTC more effective?

- a) _____
b) _____
c) _____
d) _____
e) _____

20.3. From your experience and observation in your centre, what are the strength, weakness, opportunities and threats (SWOT analysis) of FTCS?

a) Strength _____

b) Weaknesses _____

c) Opportunities _____

d) Threats _____

20. 4. If you have other additional suggestions please explain?

Appendix 4. House hold level interview schedule for trained and untrained farmers

Instructions to enumerators

1. Make brief introduction to each farmer before Starting the interview introduce yourself to farmers greet them in the local culture) get his /her name, tell them
2. yours the institution you are working for, and make clear the purpose and objectives of your questions
3. Please ask each question clearly and patiently until the farmer understands gets your point
4. Please fill up the questionnaire according to the farmers reply (do not put own opinion)
5. Please do not try to use technical terms while discussing with farmer and do not forget to record the local unit

Research site Region Oromia

Zone: Eastern shewa District: Ada'a

PA: _____ Name of FTC _____

Serial number _____

Interviewer full name: _____

Date of interview _____

1. General

1.1. Type of farmer: 1. trained _____ 2. untrained _____

1.2 Age _____

1.3. Sex: male _____ Female _____

1.4. Marital status 1) married 2) single 3) widowed

1.5. Educational level:- 1. Primary Education
2. Secondary education
3. Basic education
4. Illiterate

1.6. Address : Woreda _____ PA _____ Village _____

1.7. Family size male _____ Female _____ Total _____

1.8. Agro ecology 1) Dega 2) Woina dega 3) Kolla

1.9. Type of cultivation

1) Rain fed 2) Irrigated 3) both

1.10. Total Land holding in ha _____

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

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

a) _____

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

1) Yes 2) No

1.14. If yes, what did you contributed to FTC so far?

a) _____

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

2. Specific Questions/ Opinion statements

Key: 1) Strongly disagree 2) Dis Agree 3) Undecided 4) Agree 5) Strongly agree (put a tick mark on the appropriate choice)

No	Items for assessment /statement	Strongly disagree 1	Dis-Agree 2	Un decided 3	Agree 4	Strongly Agree 5
1.	Going to FTC is wastage of time					
2.	The services given by FTC are not need based					
3.	The information given at FTC did not consider our local situation					
4.	I have got a lot of information after the establishment of FTC					
5.	Due to lack of market information we are exploited by brokers and traders					
6.	Thanks to DAs in FTC we sell our product at a reasonable price					
7.	Extension agents in FTC do not want to learn from farmers and the community					
8.	I don't know for what purpose the FTC was established					
9.	The extension agents in FTC are highly motivated to serve us.					
10.	DAs in the FTC serve the community by going until remote areas					
11.	DAs in FTC do not like to go and serve the community in remote areas					
12.	The DAs in FTC are highly experienced in matters of farming					
13.	The DAs are not very sure of what they are advising us to do					
14.	Extension agents teach farmers on technologies which we cannot apply in practice					

Appendix 5. Check list questions for focus group discussions

1. Do you know why the FTC was established in your peasant association?
2. What was your contribution during the construction of FTC?
3. What benefits did you get so far from FTC?
4. How did you see the provision of the training program in FTC?
5. What problems did you faced or considered in the learning teaching process while you were attending the training?
6. From your observation what would you suggest to make the training program more effective in the future?
7. Would you tell me about the historical events of the training program which have been ceased in your FTC?

Table 1. Distribution and number of FTCs established throughout the country

No	Name of the region	Planned	No.FTCs established	No.of functional FTCs	No. FTCs Under construction
1.	Oromia Region	6420	3012	1881	NA
2.	SNNPR	3681	1610	857	NA
3.	Amhara Region	3150	1725	318	340
4.	Tigray Region	NA	588	588	NA
5.	Somali Region	240	14	--	4
6.	Afar Region	NA	28	--	17
7.	Harari region	17	5	3	NA
8.	Benshagul Gumez	NA	39	--	NA
9.	Gambella	NA	19	--	NA
10.	Dire Dawa council	25	7	---	NA
	Total	18, 000	7047	3644	361

Source: Need assessment survey report, Extension Directorate(MOARD), 2000 E.C

NA = Not available

Note: After the collection of the above data(information) the number of FTCs which have been constructed through out the country have reached 8500.

Source: Ethiopian radio News based on MoARD information. May 25, 2009. 1:00 p.m

Table 2. Distributions of sampled house hold respondents by PA/ FTC

No	Name of PA	No of total HHs			No of HHs		Selected number of Respondents	
		M	F	Total	Trained	Untrained	Trained	Untrained
1	Bekejo	754	15	769	225	544	5	5
2	Deko	514	11	525	112	413	4	4
3	Denkaka	759	15	774	429	345	5	5
4	Dire	714	15	729	116	613	5	5
5	Gobesay	746	15	761	72	689	5	5
6	Godino	818	17	835	138	697	6	6
7	Golo	502	10	512	223	289	4	4
8	Golbo	489	10	499	73	426	3	3
9	Hidi	764	16	780	292	488	5	5
10	Katila	815	17	832	300	532	6	6
11	Kerfe	743	15	758	318	440	5	5
12	Kurkura	1108	23	1131	60	1071	8	8
13	Tedecha	639	13	652	239	413	4	4
14	Tulu	571	12	583	230	353	4	4
15	Ude	924	18	942	489	453	6	6
16	Yerer	731	15	746	377	369	5	5
	Total	11591	237	11828	3693	8135	80	80

Source: computed from own survey data, 2009

Note: even if, the training program was not sustainable, except Gobasaye and Golo FTCs all the others have tried to carry out modular training in different years. But, all of them have given short term training.

Table 3. Number of farmers who were benefited from FTC services the last 2 years

No	Name of FTC	Modular training			Short term training			Extension service			Field day		
		M	F	T	M	F	T	M	F	T	M	F	T
1	Bekejo	57	3	60	330	20	350	400	60	460			
2	Deko	56	2	58	40	4	44	480	56	536			
3	Dekaka	55	5	60	718	60	778	991	138	1129	400	19	419
4	Dire	69	4	73	40	—	40	704	15	719			
5	Gobsay	—	—	—	131	31	162	736	136	872			
6	Godino	25	—	25	432	74	506	715	173	888			
7	Golo	—	—	—	408	130	538	647	230	877			
8	Golbo	24	6	30	35	20	55	258	60	318			
9	Hidi	42	1	43	475	34	509	688	36	724			
10	katila	58	2	60	300	96	396	900	300	1200	350	50	400
11	Kerfe	15	3	18	580	25	605	730	36	766			
12	Kurkur a	58	2	60	58	2	60	135	22	157			
13	Tedech a	25	3	28	400	80	480	650	150	800			
14	Tulu	8	3	11	150	30	180	571	12	583			
15	Ude	25	—	25	200	36	236	635	200	835			
16	Yerer	57	3	60	300	45	345	705	98	835	105	—	105
	Total	57 4	37	61 1	4597	691	5288	9968	172 2	1169 0			

Source: From extension agents of the respective farmers training centers, 2009

Note: Except Godino FTC, the rest FTCs did not complete the modular training program due to drop out.

Table 4. Status of FTCs in relation with the national standard

No	Variables or Requirements of FTCs	Standard/ Indicator	FTCs which fulfil The standard	
			No	%
1.	Class room	3or 40m.sq each	none	none
2.	Exhibition hall	1 or 40 m square	none	none
3.	Work shop	1 or 40 m. square	none	none
4.	Residence for extension agents	3 each 21m. sq	none	none
5.	Teaching aids and materials	For all FTCs	11	68.75%
6.	Extension Agents/ Trainers	3 for each	8	50%
7.	Curriculum	For all of them	6	37.5%
8.	Demonstration field	3- 5 ha for each	4	25%
9.	Guard	2 for each	7	43.75%
10.	Duration of training for one round	3 to 6 months	none	none
11.	Theory practice ratio	20%: 80%	none	none
12.	Number of farmers to be trained per year	120	none	none
13.	Conduct demonstration	For all FTCs	10	62.5%
14.	Provision of Incentive for DAs	For all FTCs	none	None
15.	Meteorology	For all FTC	none	none

Source: Own assessment data, 2009 and MoARD FTC guideline, 2005.